

ALMANAC

X

PLANETARY

PHENOMENA OF

JUPITER IN CE

The almanac X contains a list of planetary phenomena of Jupiter from the 1st millennium CE to the 6th millennium CE, from the 1st century CE to the 51st century CE.

Planetary Phenomena of Jupiter from -400 through 100 (UT), Astrodienst AG 7-Dez-2017 14:48, page 36

Attention, astronomical year style is used: The year -3 in astronomical counting style is the year 4 BCE in historical counting style.

opposition	-3 Dec 26 j 12:22	3°♄31'55	0°24'08	conjunction	03 Dec 18 j 14:26	25°♄00'15	0°-6'00
min. Earth dist.	-3 Dec 25 j 20:45	3°♄37'09	4.29321 AU	minimum elong	03 Dec 18 j 14:26	25°♄00'15	0°06'01
	-2 Jan 24 j 22:09	30°♄II		behind sun begin	03 Dec 18 j 06:48	24°♄55'47	
direct	-2 Feb 24 j 22:13	28°♄II29'28		behind sun end	03 Dec 18 j 22:04	25°♄04'43	
	-2 Mar 28 j 09:58	0°♄		morning rise	03 Dec 31 j 08:46	27°♄59'52	
evening set	-2 Jul 02 j 01:44	16°♄35'58			04 Jan 08 j 23:48	0°♄	
				retrograde	04 May 07 j 21:56	17°♄21'05	
conjunction	-2 Jul 15 j 13:54	19°♄33'24	0°35'03	opposition	04 Jul 07 j 13:58	12°♄24'40	0°-40'-4
minimum elong	-2 Jul 15 j 13:52	19°♄33'23	0°35'03	min. Earth dist.	04 Jul 08 j 00:10	12°♄21'21	4.06178 AU
max. Earth dist.	-2 Jul 15 j 22:45	19°♄38'16	6.35111 AU	direct	04 Sep 05 j 07:40	7°♄30'33	
morning rise	-2 Jul 28 j 23:54	22°♄29'34		evening set	05 Jan 08 j 05:32	26°♄43'27	
	-2 Sep 03 j 00:51	0°♄					
retrograde	-2 Nov 27 j 16:17	9°♄45'39		conjunction	05 Jan 21 j 03:57	29°♄49'22	0°-45'-13
opposition	-1 Jan 26 j 15:59	4°♄48'43	1°13'06	minimum elong	05 Jan 21 j 03:55	29°♄49'20	0°45'14
min. Earth dist.	-1 Jan 26 j 18:59	4°♄47'44	4.39617 AU	max. Earth dist.	05 Jan 21 j 04:45	29°♄49'50	6.01193 AU
	-1 Mar 16 j 20:19	30°♄R♄			05 Jan 21 j 21:41	0°≈	
direct	-1 Mar 29 j 09:03	29°♄45'28		morning rise	05 Feb 03 j 04:38	2°≈56'42	
	-1 Apr 10 j 23:15	0°♄			05 Mar 29 j 23:38	15°≈	
	-1 Jul 22 j 18:49	15°♄		retrograde	05 Jun 14 j 18:03	23°≈14'03	
evening set	-1 Aug 03 j 11:33	17°♄29'40		opposition	05 Aug 13 j 22:40	18°≈13'42	-1°-30'-11
				min. Earth dist.	05 Aug 13 j 11:41	18°≈17'21	3.97889 AU
conjunction	-1 Aug 16 j 15:42	20°♄20'45	1°02'09		05 Sep 09 j 13:23	15°≈	
minimum elong	-1 Aug 16 j 15:40	20°♄20'44	1°02'09	direct	05 Oct 11 j 09:53	13°≈20'18	
max. Earth dist.	-1 Aug 15 j 22:07	20°♄11'12	6.42591 AU		05 Nov 12 j 00:00	15°≈	
morning rise	-1 Aug 29 j 16:48	23°♄10'18			06 Feb 01 j 06:01	0°♄	
	-1 Oct 01 j 15:13	0°♄		evening set	06 Feb 13 j 12:40	2°♄55'01	
retrograde	-1 Dec 27 j 21:45	10°♄00'47					
opposition	00 Feb 26 j 07:01	5°♄07'01	1°40'26	conjunction	06 Feb 26 j 18:10	6°♄06'13	-1°-8'-33
min. Earth dist.	00 Feb 27 j 02:15	5°♄00'48	4.43959 AU	minimum elong	06 Feb 26 j 18:09	6°♄06'12	1°08'33
direct	00 Apr 28 j 19:10	0°♄04'13		max. Earth dist.	06 Feb 28 j 00:42	6°♄24'37	5.96544 AU
evening set	00 Sep 02 j 15:41	17°♄40'46		morning rise	06 Mar 12 j 03:01	9°♄19'08	
max. Earth dist.	00 Sep 13 j 22:34	20°♄07'53	6.43385 AU	retrograde	06 Jul 22 j 13:09	29°♄55'09	
				min. Earth dist.	06 Sep 19 j 04:04	25°♄01'06	3.97572 AU
conjunction	00 Sep 15 j 12:21	20°♄28'28	1°11'46	opposition	06 Sep 20 j 09:02	24°♄51'18	-1°-45'-47
minimum elong	00 Sep 15 j 12:20	20°♄28'28	1°11'46	direct	06 Nov 17 j 05:45	19°♄56'24	
morning rise	00 Sep 28 j 06:06	23°♄14'51			07 Feb 08 j 17:06	0°♄	
	00 Oct 30 j 15:09	0°♄		evening set	07 Mar 22 j 21:49	9°♄29'19	
retrograde	01 Jan 26 j 14:45	10°♄07'42					
opposition	01 Mar 28 j 07:42	5°♄15'45	1°40'42	conjunction	07 Apr 05 j 11:09	12°♄42'14	-1°-5'-15
min. Earth dist.	01 Mar 29 j 15:33	5°♄05'35	4.41261 AU	minimum elong	07 Apr 05 j 11:12	12°♄42'15	1°05'16
direct	01 May 30 j 01:48	0°♄14'29		max. Earth dist.	07 Apr 07 j 13:59	13°♄12'25	6.00487 AU
evening set	01 Oct 03 j 08:15	17°♄58'41		morning rise	07 Apr 19 j 03:14	15°♄56'24	
max. Earth dist.	01 Oct 13 j 23:23	20°♄19'44	6.37321 AU		07 Jun 24 j 20:20	0°♄	
				retrograde	07 Aug 27 j 23:25	6°♄02'08	
conjunction	01 Oct 16 j 00:15	20°♄46'51	1°01'46	min. Earth dist.	07 Oct 25 j 03:16	1°♄08'19	4.05341 AU
minimum elong	01 Oct 16 j 00:17	20°♄46'52	1°01'45	opposition	07 Oct 26 j 12:47	0°♄56'52	-1°-20'00
morning rise	01 Oct 28 j 14:24	23°♄34'15			07 Nov 02 j 12:23	30°♄♄	
	01 Nov 27 j 17:39	0°♄		direct	07 Dec 23 j 18:48	25°♄59'01	
retrograde	02 Feb 27 j 15:02	10°♄56'49			08 Feb 12 j 10:20	0°♄	
opposition	02 Apr 29 j 13:19	6°♄04'54	1°13'00		08 Apr 27 j 11:57	15°♄	
min. Earth dist.	02 May 01 j 00:28	5°♄53'42	4.32176 AU	evening set	08 Apr 28 j 00:45	15°♄07'21	
direct	02 Jun 30 j 19:31	1°♄05'52					
	02 Oct 15 j 11:56	15°♄		conjunction	08 May 11 j 19:00	18°♄17'32	0°-37'-27
evening set	02 Nov 03 j 11:00	19°♄12'13		minimum elong	08 May 11 j 19:03	18°♄17'33	0°37'28
max. Earth dist.	02 Nov 14 j 05:34	21°♄39'06	6.25943 AU	max. Earth dist.	08 May 13 j 22:30	18°♄47'14	6.11352 AU
				morning rise	08 May 25 j 14:17	21°♄28'00	
conjunction	02 Nov 16 j 02:08	22°♄04'31	0°33'45		08 Jul 03 j 17:53	0°♄	
minimum elong	02 Nov 16 j 02:10	22°♄04'32	0°33'45	retrograde	08 Sep 30 j 02:32	10°♄31'17	
morning rise	02 Nov 28 j 16:26	24°♄56'43		opposition	08 Nov 28 j 16:08	5°♄27'34	0°-26'-46
	02 Dec 21 j 11:13	0°♄		min. Earth dist.	08 Nov 27 j 12:25	5°♄36'59	4.18058 AU
retrograde	03 Apr 02 j 15:42	13°♄12'15		direct	09 Jan 26 j 22:14	0°♄26'50	
opposition	03 Jun 02 j 14:05	8°♄18'52	0°21'45	asc. node	09 May 25 j 08:01	17°♄08'25	
min. Earth dist.	03 Jun 03 j 18:05	8°♄09'54	4.19156 AU	evening set	09 Jun 02 j 18:50	19°♄00'29	
direct	03 Aug 02 j 18:06	3°♄22'33					
desc. node	03 Oct 22 j 23:16	12°♄25'24		conjunction	09 Jun 16 j 12:00	22°♄04'19	0°02'19
evening set	03 Dec 05 j 21:14	22°♄01'25		minimum elong	09 Jun 16 j 11:59	22°♄04'19	0°02'19
max. Earth dist.	03 Dec 17 j 09:27	24°♄43'14	6.12428 AU	behind sun begin	09 Jun 16 j 03:39	21°♄59'41	

behind sun end	09 Jun 16 j 20:19	22° Π 08'57		desc. node	15 Sep 01 j 10:22	9° \mathcal{Z} 10'14	
max. Earth dist.	09 Jun 17 j 19:23	22° Π 21'52	6.24899 AU	evening set	15 Dec 10 j 14:31	26° \mathcal{Z} 55'50	
morning rise	09 Jun 30 j 04:25	25° Π 07'28		max. Earth dist.	15 Dec 22 j 08:46	29° \mathcal{Z} 41'44	6.10653 AU
	09 Jul 22 j 15:31	0° \mathcal{E}					
retrograde	09 Nov 01 j 04:21	13° \mathcal{E} 05'38		conjunction	15 Dec 23 j 08:26	29° \mathcal{Z} 55'42	0°-11'-53
opposition	09 Dec 30 j 22:06	8° \mathcal{E} 05'22	0°31'56	minimum elong	15 Dec 23 j 08:25	29° \mathcal{Z} 55'41	0°11'54
min. Earth dist.	09 Dec 30 j 09:56	8° \mathcal{E} 09'26	4.31164 AU	behind sun begin	15 Dec 23 j 02:46	29° \mathcal{Z} 52'22	
direct	10 Mar 01 j 13:51	3° \mathcal{E} 02'41		behind sun end	15 Dec 23 j 14:04	29° \mathcal{Z} 59'00	
evening set	10 Jul 06 j 16:13	21° \mathcal{E} 04'56			15 Dec 23 j 15:44	0° \mathcal{Z}	
				morning rise	16 Jan 05 j 03:21	2° \mathcal{Z} 56'23	
conjunction	10 Jul 20 j 03:28	24° \mathcal{E} 01'21	0°39'41	retrograde	16 May 13 j 05:02	22° \mathcal{Z} 26'22	
minimum elong	10 Jul 20 j 03:26	24° \mathcal{E} 01'20	0°39'42	opposition	16 Jul 12 j 18:54	17° \mathcal{Z} 29'30	0°-48'-24
max. Earth dist.	10 Jul 20 j 09:10	24° \mathcal{E} 04'29	6.36581 AU	min. Earth dist.	16 Jul 13 j 02:24	17° \mathcal{Z} 27'03	4.04789 AU
morning rise	10 Aug 02 j 12:07	26° \mathcal{E} 56'24		direct	16 Sep 10 j 07:58	12° \mathcal{Z} 35'41	
	10 Aug 16 j 18:27	0° \mathcal{Q}			17 Jan 05 j 08:50	0° \approx	
retrograde	10 Dec 01 j 20:15	14° \mathcal{Q} 07'07		evening set	17 Jan 13 j 05:34	1° \approx 52'00	
opposition	11 Jan 30 j 22:16	9° \mathcal{Q} 10'42	1°18'22				
min. Earth dist.	11 Jan 31 j 03:04	9° \mathcal{Q} 09'07	4.40645 AU	conjunction	17 Jan 26 j 04:40	4° \approx 58'39	0°-49'-46
direct	11 Apr 02 j 17:48	4° \mathcal{Q} 07'28		minimum elong	17 Jan 26 j 04:37	4° \approx 58'38	0°49'48
	11 Jul 05 j 21:16	15° \mathcal{Q}		max. Earth dist.	17 Jan 26 j 08:56	5° \approx 01'14	6.00305 AU
evening set	11 Aug 07 j 21:02	21° \mathcal{Q} 49'45		morning rise	17 Feb 08 j 06:30	8° \approx 06'52	
					17 Mar 10 j 00:40	15° \approx	
conjunction	11 Aug 20 j 23:57	24° \mathcal{Q} 40'09	1°04'37	retrograde	17 Jun 19 j 23:53	28° \approx 28'24	
minimum elong	11 Aug 20 j 23:55	24° \mathcal{Q} 40'08	1°04'36	opposition	17 Aug 19 j 04:49	23° \approx 27'30	-1°-34'-45
max. Earth dist.	11 Aug 20 j 02:13	24° \mathcal{Q} 28'21	6.43094 AU	min. Earth dist.	17 Aug 18 j 13:50	23° \approx 32'30	3.97632 AU
morning rise	11 Sep 02 j 23:58	27° \mathcal{Q} 29'04		direct	17 Oct 16 j 12:30	18° \approx 34'02	
	11 Sep 14 j 18:42	0° \mathcal{P}			18 Jan 14 j 07:26	0° \mathcal{H}	
retrograde	12 Jan 01 j 04:11	14° \mathcal{P} 18'25		evening set	18 Feb 18 j 16:41	8° \mathcal{H} 08'48	
opposition	12 Mar 01 j 13:44	9° \mathcal{P} 25'03	1°42'08				
min. Earth dist.	12 Mar 02 j 12:05	9° \mathcal{P} 17'50	4.43924 AU	conjunction	18 Mar 03 j 23:18	11° \mathcal{H} 20'17	-1°-9'-44
direct	12 May 03 j 04:46	4° \mathcal{P} 22'24		minimum elong	18 Mar 03 j 23:18	11° \mathcal{H} 20'17	1°09'45
evening set	12 Sep 06 j 22:34	21° \mathcal{P} 59'30		max. Earth dist.	18 Mar 05 j 10:14	11° \mathcal{H} 41'19	5.96923 AU
max. Earth dist.	12 Sep 18 j 01:41	24° \mathcal{P} 24'52	6.42795 AU	morning rise	18 Mar 17 j 09:04	14° \mathcal{H} 33'27	
					18 May 30 j 02:19	0° \mathcal{Y}	
conjunction	12 Sep 19 j 18:26	24° \mathcal{P} 47'07	1°11'32	retrograde	18 Jul 27 j 17:30	5° \mathcal{Y} 06'42	
minimum elong	12 Sep 19 j 18:26	24° \mathcal{P} 47'07	1°11'32	min. Earth dist.	18 Sep 24 j 06:13	0° \mathcal{Y} 12'27	3.98539 AU
morning rise	12 Oct 02 j 11:31	27° \mathcal{P} 33'27		opposition	18 Sep 25 j 11:39	0° \mathcal{Y} 02'28	-1°-44'-27
	12 Oct 13 j 19:52	0° \mathcal{A}			18 Sep 25 j 18:55	30° \mathcal{R} \mathcal{H}	
retrograde	13 Jan 30 j 23:18	14° \mathcal{A} 29'25		direct	18 Nov 22 j 09:52	25° \mathcal{H} 07'13	
opposition	13 Apr 01 j 17:37	9° \mathcal{A} 37'34	1°38'27		19 Jan 17 j 01:08	0° \mathcal{Y}	
min. Earth dist.	13 Apr 03 j 02:06	9° \mathcal{A} 27'12	4.40171 AU	evening set	19 Mar 28 j 01:30	14° \mathcal{Y} 36'33	
direct	13 Jun 03 j 10:16	4° \mathcal{A} 36'34					
evening set	13 Oct 07 j 15:54	22° \mathcal{A} 23'48		conjunction	19 Apr 10 j 15:44	17° \mathcal{Y} 49'11	-1°-2'-38
max. Earth dist.	13 Oct 18 j 07:39	24° \mathcal{A} 45'41	6.35822 AU	minimum elong	19 Apr 10 j 15:46	17° \mathcal{Y} 49'13	1°02'38
				max. Earth dist.	19 Apr 12 j 20:27	18° \mathcal{Y} 20'21	6.01936 AU
conjunction	13 Oct 20 j 07:40	25° \mathcal{A} 12'27	0°58'49	morning rise	19 Apr 24 j 08:30	21° \mathcal{Y} 02'59	
minimum elong	13 Oct 20 j 07:42	25° \mathcal{A} 12'28	0°58'48		19 Jun 03 j 10:21	0° \mathcal{B}	
morning rise	13 Nov 01 j 21:31	28° \mathcal{A} 00'22		retrograde	19 Sep 01 j 18:37	11° \mathcal{B} 00'21	
	13 Nov 10 j 23:02	0° \mathcal{M}		min. Earth dist.	19 Oct 29 j 22:36	6° \mathcal{B} 06'39	4.07110 AU
	14 Feb 14 j 10:00	15° \mathcal{M}		opposition	19 Oct 31 j 08:13	5° \mathcal{B} 55'11	-1°-13'-46
retrograde	14 Mar 04 j 06:46	15° \mathcal{M} 29'41		direct	19 Dec 28 j 15:52	0° \mathcal{B} 56'58	
	14 Mar 22 j 03:44	15° \mathcal{R} \mathcal{M}			20 Apr 10 j 16:55	15° \mathcal{B}	
opposition	14 May 04 j 05:07	10° \mathcal{M} 37'45	1°06'59	evening set	20 May 03 j 00:32	20° \mathcal{B} 00'06	
min. Earth dist.	14 May 05 j 16:14	10° \mathcal{M} 26'35	4.30361 AU				
direct	14 Jul 05 j 08:47	5° \mathcal{M} 39'11		conjunction	20 May 16 j 18:50	23° \mathcal{B} 09'29	0°-32'-21
	14 Sep 27 j 15:31	15° \mathcal{M}		minimum elong	20 May 16 j 18:52	23° \mathcal{B} 09'31	0°32'22
evening set	14 Nov 07 j 22:26	23° \mathcal{M} 50'16		max. Earth dist.	20 May 18 j 18:35	23° \mathcal{B} 36'54	6.13278 AU
max. Earth dist.	14 Nov 18 j 17:23	26° \mathcal{M} 18'07	6.23970 AU	morning rise	20 May 30 j 14:10	26° \mathcal{B} 19'05	
					20 Jun 16 j 00:03	0° \mathcal{H}	
conjunction	14 Nov 20 j 13:34	26° \mathcal{M} 43'26	0°28'38	retrograde	20 Oct 04 j 14:15	15° \mathcal{H} 12'51	
minimum elong	14 Nov 20 j 13:36	26° \mathcal{M} 43'27	0°28'38	min. Earth dist.	20 Dec 02 j 03:18	10° \mathcal{H} 18'02	4.19943 AU
morning rise	14 Dec 03 j 04:26	29° \mathcal{M} 36'39		opposition	20 Dec 03 j 04:23	10° \mathcal{H} 09'32	0°-18'-34
	14 Dec 04 j 21:27	0° \mathcal{Z}		direct	21 Jan 31 j 15:52	5° \mathcal{H} 08'26	
retrograde	15 Apr 07 j 15:17	18° \mathcal{Z} 01'27		asc. node	21 Apr 05 j 08:44	10° \mathcal{H} 58'06	
opposition	15 Jun 07 j 13:10	13° \mathcal{Z} 07'44	0°13'15	evening set	21 Jun 07 j 12:35	23° \mathcal{H} 37'29	
min. Earth dist.	15 Jun 08 j 14:32	12° \mathcal{Z} 59'36	4.17179 AU				
direct	15 Aug 07 j 12:25	8° \mathcal{Z} 11'49		conjunction	21 Jun 21 j 05:24	26° \mathcal{H} 40'24	0°07'51

minimum elong	21 Jun 21 j 05:23	26° Π 40'23	0°07'50	retrograde	27 Apr 12 j 15:12	22° \cancel{A} 49'23	
behind sun begin	21 Jun 20 j 21:57	26° Π 36'16		opposition	27 Jun 12 j 11:49	17° \cancel{A} 55'18	0°04'38
behind sun end	21 Jun 21 j 12:49	26° Π 44'30		min. Earth dist.	27 Jun 13 j 11:46	17° \cancel{A} 47'37	4.15503 AU
max. Earth dist.	21 Jun 22 j 10:19	26° Π 56'30	6.26616 AU	desc. node	27 Jul 12 j 08:13	14° \cancel{A} 28'03	
morning rise	21 Jul 04 j 20:50	29° Π 42'26		direct	27 Aug 12 j 07:21	12° \cancel{A} 59'43	
	21 Jul 06 j 04:39	0° \mathfrak{C}			27 Dec 07 j 14:32	0° \mathfrak{C}	
retrograde	21 Nov 05 j 10:43	17° \mathfrak{C} 33'16		evening set	27 Dec 15 j 07:12	1° \mathfrak{C} 47'40	
opposition	22 Jan 04 j 05:31	12° \mathfrak{C} 33'36	0°39'18	max. Earth dist.	27 Dec 27 j 04:03	4° \mathfrak{C} 35'41	6.09140 AU
min. Earth dist.	22 Jan 03 j 19:17	12° \mathfrak{C} 37'00	4.32588 AU				
direct	22 Mar 06 j 00:42	7° \mathfrak{C} 30'49		conjunction	27 Dec 28 j 01:32	4° \mathfrak{C} 48'23	0°-17'-40
evening set	22 Jul 11 j 04:35	25° \mathfrak{C} 30'12		minimum elong	27 Dec 28 j 01:31	4° \mathfrak{C} 48'22	0°17'41
				morning rise	28 Jan 09 j 21:23	7° \mathfrak{C} 50'05	
conjunction	22 Jul 24 j 14:38	28° \mathfrak{C} 25'45	0°44'00	retrograde	28 May 18 j 07:58	27° \mathfrak{C} 27'46	
minimum elong	22 Jul 24 j 14:36	28° \mathfrak{C} 25'43	0°44'00	opposition	28 Jul 17 j 22:02	22° \mathfrak{C} 30'18	0°-56'-18
max. Earth dist.	22 Jul 24 j 14:52	28° \mathfrak{C} 25'52	6.37604 AU	min. Earth dist.	28 Jul 18 j 01:38	22° \mathfrak{C} 29'08	4.03580 AU
	22 Jul 31 j 19:17	0° \mathcal{Q}		direct	28 Sep 15 j 05:51	17° \mathfrak{C} 36'37	
morning rise	22 Aug 06 j 22:19	1° \mathcal{Q} 19'56			28 Dec 19 j 05:10	0° \approx	
	22 Oct 19 j 00:35	15° \mathcal{Q}		evening set	29 Jan 18 j 04:05	6° \approx 55'56	
retrograde	22 Dec 06 j 02:06	18° \mathcal{Q} 27'00					
	23 Jan 23 j 15:44	15° \mathcal{R} \mathcal{Q}		conjunction	29 Jan 31 j 04:10	10° \approx 03'21	0°-53'-55
opposition	23 Feb 04 j 04:07	13° \mathcal{Q} 31'05	1°23'07	minimum elong	29 Jan 31 j 04:08	10° \approx 03'19	0°53'56
min. Earth dist.	23 Feb 04 j 12:21	13° \mathcal{Q} 28'23	4.41232 AU	max. Earth dist.	29 Jan 31 j 13:28	10° \approx 08'57	5.99504 AU
direct	23 Apr 07 j 03:53	8° \mathcal{Q} 27'50		morning rise	29 Feb 13 j 06:53	13° \approx 12'19	
	23 Jun 16 j 10:37	15° \mathcal{Q}			29 Feb 20 j 20:12	15° \approx	
evening set	23 Aug 12 j 05:31	26° \mathcal{Q} 09'22			29 May 07 j 06:22	0° \mathfrak{H}	
max. Earth dist.	23 Aug 24 j 07:46	28° \mathcal{Q} 46'25	6.43200 AU	retrograde	29 Jun 25 j 06:36	3° \mathfrak{H} 37'51	
					29 Aug 13 j 19:37	30° \mathcal{R} \approx	
conjunction	23 Aug 25 j 07:33	28° \mathcal{Q} 59'20	1°06'40	opposition	29 Aug 24 j 09:17	28° \approx 36'24	-1°-38'-34
minimum elong	23 Aug 25 j 07:31	28° \mathcal{Q} 59'19	1°06'40	min. Earth dist.	29 Aug 23 j 16:47	28° \approx 41'55	3.97332 AU
	23 Aug 29 j 23:17	0° \mathfrak{P}		direct	29 Oct 21 j 15:41	23° \approx 42'46	
morning rise	23 Sep 07 j 06:23	1° \mathfrak{P} 47'46			29 Dec 24 j 11:22	0° \mathfrak{H}	
retrograde	24 Jan 05 j 08:49	18° \mathfrak{P} 37'13		evening set	30 Feb 23 j 19:33	13° \mathfrak{H} 18'00	
opposition	24 Mar 05 j 20:37	13° \mathfrak{P} 44'07	1°43'15				
min. Earth dist.	24 Mar 06 j 19:43	13° \mathfrak{P} 36'41	4.43582 AU	conjunction	30 Mar 09 j 03:14	16° \mathfrak{H} 29'52	-1°-10'-24
direct	24 May 07 j 11:36	8° \mathfrak{P} 41'40		minimum elong	30 Mar 09 j 03:14	16° \mathfrak{H} 29'52	1°10'25
evening set	24 Sep 11 j 05:41	26° \mathfrak{P} 19'59		max. Earth dist.	30 Mar 10 j 17:33	16° \mathfrak{H} 52'53	5.97137 AU
max. Earth dist.	24 Sep 22 j 06:39	28° \mathfrak{P} 44'31	6.42033 AU	morning rise	30 Mar 22 j 14:07	19° \mathfrak{H} 43'24	
					30 May 07 j 07:09	0° \mathcal{Y}	
conjunction	24 Sep 24 j 00:45	29° \mathfrak{P} 07'34	1°10'52	retrograde	30 Aug 01 j 19:29	10° \mathcal{Y} 14'22	
minimum elong	24 Sep 24 j 00:45	29° \mathfrak{P} 07'34	1°10'52	min. Earth dist.	30 Sep 29 j 05:44	5° \mathcal{Y} 20'24	3.99267 AU
	24 Sep 28 j 00:29	0° \mathfrak{A}		opposition	30 Sep 30 j 12:43	5° \mathcal{Y} 09'53	-1°-42'-23
morning rise	24 Oct 06 j 17:13	1° \mathfrak{A} 53'58		direct	30 Nov 27 j 10:04	0° \mathcal{Y} 14'17	
retrograde	25 Feb 04 j 10:09	18° \mathfrak{A} 53'26		evening set	31 Apr 02 j 05:10	19° \mathcal{Y} 41'22	
opposition	25 Apr 06 j 04:36	14° \mathfrak{A} 01'40	1°35'36				
min. Earth dist.	25 Apr 07 j 14:26	13° \mathfrak{A} 50'53	4.39034 AU	conjunction	31 Apr 15 j 20:07	22° \mathcal{Y} 53'50	0°-59'-33
direct	25 Jun 07 j 21:23	9° \mathfrak{A} 00'58		minimum elong	31 Apr 15 j 20:10	22° \mathcal{Y} 53'51	0°59'34
evening set	25 Oct 11 j 23:43	26° \mathfrak{A} 50'50		max. Earth dist.	31 Apr 17 j 23:49	23° \mathcal{Y} 24'18	6.03088 AU
max. Earth dist.	25 Oct 22 j 14:30	29° \mathfrak{A} 12'42	6.34396 AU	morning rise	31 Apr 29 j 13:41	26° \mathcal{Y} 07'24	
					31 May 16 j 09:46	0° \mathfrak{B}	
conjunction	25 Oct 24 j 15:13	29° \mathfrak{A} 39'55	0°55'29		31 Aug 13 j 06:59	15° \mathfrak{B}	
minimum elong	25 Oct 24 j 15:15	29° \mathfrak{A} 39'56	0°55'29	retrograde	31 Sep 06 j 13:41	15° \mathfrak{B} 57'38	
	25 Oct 26 j 03:08	0° \mathfrak{M}			31 Sep 30 j 16:08	15° \mathcal{R} \mathfrak{B}	
morning rise	25 Nov 06 j 05:03	2° \mathfrak{M} 28'24		min. Earth dist.	31 Nov 03 j 18:42	11° \mathfrak{B} 03'43	4.08542 AU
	26 Jan 08 j 09:47	15° \mathfrak{M}		opposition	31 Nov 05 j 03:23	10° \mathfrak{B} 52'33	-1°-7'-4
retrograde	26 Mar 08 j 22:16	20° \mathfrak{M} 04'08		direct	32 Jan 02 j 14:19	5° \mathfrak{B} 53'53	
opposition	26 May 08 j 21:43	15° \mathfrak{M} 11'58	1°00'31		32 Mar 23 j 01:00	15° \mathfrak{B}	
min. Earth dist.	26 May 10 j 07:03	15° \mathfrak{M} 01'20	4.28724 AU	evening set	32 May 08 j 00:51	24° \mathfrak{B} 53'15	
	26 May 10 j 11:16	15° \mathcal{R} \mathfrak{M}					
direct	26 Jul 09 j 21:30	10° \mathfrak{M} 13'43		conjunction	32 May 21 j 19:31	28° \mathfrak{B} 02'03	0°-27'-1
	26 Sep 05 j 21:35	15° \mathfrak{M}		minimum elong	32 May 21 j 19:33	28° \mathfrak{B} 02'04	0°27'01
evening set	26 Nov 12 j 09:39	28° \mathfrak{M} 28'29		max. Earth dist.	32 May 23 j 18:31	28° \mathfrak{B} 28'56	6.14885 AU
	26 Nov 19 j 01:38	0° \mathfrak{A}			32 May 30 j 09:58	0° \mathfrak{I}	
max. Earth dist.	26 Nov 23 j 08:23	0° \mathfrak{A} 59'02	6.22265 AU	morning rise	32 Jun 04 j 14:34	1° \mathfrak{I} 10'50	
				retrograde	32 Oct 09 j 04:15	19° \mathfrak{I} 56'17	
conjunction	26 Nov 25 j 01:03	1° \mathfrak{A} 22'25	0°23'20	opposition	32 Dec 07 j 17:49	14° \mathfrak{I} 53'27	0°-10'-10
minimum elong	26 Nov 25 j 01:04	1° \mathfrak{A} 22'26	0°23'19	min. Earth dist.	32 Dec 06 j 18:25	15° \mathfrak{I} 01'22	4.21556 AU
morning rise	26 Dec 07 j 16:07	4° \mathfrak{A} 16'29		direct	33 Feb 05 j 09:09	9° \mathfrak{I} 52'07	

asc. node	33 Feb 13 j 07:55	9°II58'17		conjunction	38 Nov 29 j 10:14	5° 2 56'26	0°18'02
evening set	33 Jun 12 j 08:01	28°II17'31		minimum elong	38 Nov 29 j 10:15	5° 2 56'26	0°18'02
	33 Jun 20 j 00:58	0° 5		morning rise	38 Dec 12 j 01:46	8° 2 51'11	
				retrograde	39 Apr 17 j 09:42	27° 2 30'44	
conjunction	33 Jun 26 j 00:00	1° 5 19'30	0°13'24	desc. node	39 May 24 j 04:36	25° 2 29'40	
minimum elong	33 Jun 25 j 23:59	1° 5 19'29	0°13'25	opposition	39 Jun 17 j 07:10	22° 2 36'14	0°-3'-44
behind sun begin	33 Jun 25 j 19:29	1° 5 17'00		min. Earth dist.	39 Jun 18 j 04:20	22° 2 29'25	4.14219 AU
behind sun end	33 Jun 26 j 04:30	1° 5 21'59		direct	39 Aug 16 j 21:24	17° 2 40'55	
max. Earth dist.	33 Jun 27 j 00:13	1° 5 32'57	6.28104 AU		39 Nov 21 j 04:03	0° 3	
morning rise	33 Jul 09 j 14:46	4° 5 20'35		evening set	39 Dec 19 j 20:27	6° 3 31'48	
retrograde	33 Nov 09 j 19:30	22° 5 04'57					
opposition	34 Jan 08 j 14:54	17° 5 05'50	0°46'36	conjunction	40 Jan 01 j 15:22	9° 3 33'16	0°-23'-7
min. Earth dist.	34 Jan 08 j 07:15	17° 5 08'23	4.33861 AU	minimum elong	40 Jan 01 j 15:21	9° 3 33'15	0°23'09
direct	34 Mar 10 j 14:29	12° 5 02'56		max. Earth dist.	39 Dec 31 j 21:43	9° 3 22'48	6.07922 AU
evening set	34 Jul 15 j 18:50	29° 5 59'55		morning rise	40 Jan 14 j 11:50	12° 3 35'47	
	34 Jul 15 j 19:00	0° 8			40 Apr 14 j 05:13	0° ≈	
				retrograde	40 May 23 j 08:47	2° ≈ 20'17	
conjunction	34 Jul 29 j 03:58	2° 8 54'40	0°48'10		40 Jul 01 j 16:39	30° R 3	
minimum elong	34 Jul 29 j 03:56	2° 8 54'38	0°48'09	opposition	40 Jul 22 j 21:01	27° 3 22'19	-1°-3'-32
max. Earth dist.	34 Jul 29 j 02:22	2° 8 53'47	6.38589 AU	min. Earth dist.	40 Jul 22 j 23:23	27° 3 21'32	4.02533 AU
morning rise	34 Aug 11 j 10:15	5° 8 47'56		direct	40 Sep 20 j 02:11	22° 3 28'42	
	34 Sep 25 j 17:04	15° 8			40 Nov 30 j 05:27	0° ≈	
retrograde	34 Dec 10 j 08:10	22° 8 51'26		evening set	41 Jan 22 j 23:00	11° ≈ 50'51	
opposition	35 Feb 08 j 11:51	17° 8 56'03	1°27'32				
min. Earth dist.	35 Feb 08 j 21:19	17° 8 52'58	4.41908 AU	conjunction	41 Feb 04 j 23:59	14° ≈ 59'00	0°-57'-31
	35 Mar 04 j 13:42	15° R 8		minimum elong	41 Feb 04 j 23:56	14° ≈ 58'58	0°57'31
direct	35 Apr 11 j 13:45	12° 8 52'59			41 Feb 05 j 01:39	15° ≈	
	35 May 19 j 22:41	15° 8		max. Earth dist.	41 Feb 05 j 12:11	15° ≈ 06'21	5.98722 AU
	35 Aug 14 j 01:46	0° η		morning rise	41 Feb 18 j 03:49	18° ≈ 08'47	
evening set	35 Aug 16 j 15:48	0° η 33'20			41 Apr 12 j 15:53	0° κ	
				retrograde	41 Jun 30 j 08:04	8° κ 38'05	
conjunction	35 Aug 29 j 16:34	3° η 22'42	1°08'26	opposition	41 Aug 29 j 09:01	3° κ 36'13	-1°-41'-32
minimum elong	35 Aug 29 j 16:33	3° η 22'42	1°08'27	min. Earth dist.	41 Aug 28 j 14:09	3° κ 42'32	3.96934 AU
max. Earth dist.	35 Aug 28 j 13:17	3° η 07'53	6.43526 AU		41 Sep 28 j 17:45	30° R ≈	
morning rise	35 Sep 11 j 14:29	6° η 10'38		direct	41 Oct 26 j 11:59	28° ≈ 42'25	
retrograde	36 Jan 09 j 17:22	22° η 59'30			41 Nov 23 j 04:37	0° κ	
opposition	36 Mar 10 j 05:25	18° η 06'43	1°43'52	evening set	42 Feb 28 j 19:14	18° κ 19'03	
min. Earth dist.	36 Mar 11 j 06:37	17° η 58'38	4.43573 AU				
direct	36 May 11 j 22:41	13° η 04'30		conjunction	42 Mar 14 j 03:58	21° κ 31'25	-1°-10'-31
	36 Sep 12 j 06:29	0° Δ		minimum elong	42 Mar 14 j 03:59	21° κ 31'25	1°10'32
evening set	36 Sep 15 j 13:11	0° Δ 42'39		max. Earth dist.	42 Mar 15 j 19:14	21° κ 55'00	5.97146 AU
max. Earth dist.	36 Sep 26 j 13:09	3° Δ 06'49	6.41693 AU	morning rise	42 Mar 27 j 16:02	24° κ 45'27	
					42 Apr 19 j 03:26	0° Υ	
conjunction	36 Sep 28 j 07:37	3° Δ 30'05	1°09'52	retrograde	42 Aug 06 j 17:47	15° Υ 15'05	
minimum elong	36 Sep 28 j 07:38	3° Δ 30'06	1°09'51	min. Earth dist.	42 Oct 04 j 02:50	10° Υ 21'05	3.99684 AU
morning rise	36 Oct 10 j 23:20	6° Δ 16'22		opposition	42 Oct 05 j 10:24	10° Υ 10'20	-1°-39'-40
retrograde	37 Feb 08 j 18:49	23° Δ 18'02		direct	42 Dec 02 j 08:10	5° Υ 14'20	
opposition	37 Apr 10 j 15:45	18° Δ 26'18	1°32'14	evening set	43 Apr 07 j 06:15	24° Υ 40'32	
min. Earth dist.	37 Apr 12 j 00:49	18° Δ 15'47	4.38394 AU				
direct	37 Jun 12 j 06:32	13° Δ 25'58		conjunction	43 Apr 20 j 22:18	27° Υ 53'05	0°-56'-8
	37 Oct 10 j 11:58	0° ℳ		minimum elong	43 Apr 20 j 22:21	27° Υ 53'07	0°56'09
evening set	37 Oct 16 j 06:58	1° ℳ 16'47		max. Earth dist.	43 Apr 23 j 03:43	28° Υ 24'29	6.03904 AU
max. Earth dist.	37 Oct 26 j 22:30	3° ℳ 39'25	6.33509 AU		43 Apr 29 j 22:28	0° 8	
				morning rise	43 May 04 j 16:24	1° 8 06'33	
conjunction	37 Oct 28 j 22:05	4° ℳ 06'05	0°51'54		43 Jul 10 j 07:31	15° 8	
minimum elong	37 Oct 28 j 22:07	4° ℳ 06'06	0°51'55	retrograde	43 Sep 11 j 09:09	20° 8 50'57	
morning rise	37 Nov 10 j 11:45	6° ℳ 54'52		opposition	43 Nov 09 j 20:51	15° 8 46'03	-1°00'-4
	37 Dec 18 j 13:49	15° ℳ		min. Earth dist.	43 Nov 08 j 13:02	15° 8 56'53	4.09656 AU
retrograde	38 Mar 13 j 13:47	24° ℳ 35'19			43 Nov 15 j 12:22	15° R 8	
opposition	38 May 13 j 12:46	19° ℳ 43'00	0°53'49	direct	44 Jan 07 j 10:40	10° 8 46'58	
min. Earth dist.	38 May 14 j 22:21	19° ℳ 32'18	4.27616 AU		44 Feb 28 j 20:42	15° 8	
	38 Jul 01 j 17:42	15° R ℳ		evening set	44 May 13 j 00:16	29° 8 43'41	
direct	38 Jul 14 j 11:01	14° ℳ 45'06			44 May 14 j 05:02	0° II	
	38 Jul 27 j 03:04	15° ℳ					
	38 Nov 03 j 08:25	0° 2		conjunction	44 May 26 j 18:55	2° II 51'56	0°-21'-34
evening set	38 Nov 16 j 18:42	3° 2 01'56		minimum elong	44 May 26 j 18:57	2° II 51'57	0°21'35
max. Earth dist.	38 Nov 27 j 18:21	5° 2 33'26	6.21029 AU	max. Earth dist.	44 May 28 j 15:21	3° II 17'15	6.16212 AU

morning rise	44 Jun 09 j 14:00	6°II00'04		conjunction	50 Dec 03 j 21:50	10°X35'55	0°12'29
retrograde	44 Oct 13 j 15:55	24°II38'02		minimum elong	50 Dec 03 j 21:51	10°X35'56	0°12'29
min. Earth dist.	44 Dec 11 j 08:06	19°II43'05	4.22970 AU	behind sun begin	50 Dec 03 j 16:34	10°X32'53	
opposition	44 Dec 12 j 06:20	19°II35'34	0°-1'-51	behind sun end	50 Dec 04 j 03:08	10°X38'59	
asc. node	44 Dec 24 j 15:37	17°II57'11		morning rise	50 Dec 16 j 13:52	13°X31'42	
direct	45 Feb 10 j 01:25	14°II33'52			51 Mar 14 j 00:34	0°Z	
	45 Jun 03 j 15:46	0°Z		desc. node	51 Apr 03 j 10:05	1°Z46'45	
evening set	45 Jun 17 j 02:48	2°Z56'03		retrograde	51 Apr 22 j 11:13	2°Z20'35	
					51 Jun 01 j 05:20	30°RX7	
conjunction	45 Jun 30 j 18:13	5°Z57'09	0°18'50	opposition	51 Jun 22 j 06:28	27°X25'43	0°-12'-25
minimum elong	45 Jun 30 j 18:12	5°Z57'08	0°18'51	min. Earth dist.	51 Jun 23 j 02:29	27°X19'15	4.12305 AU
max. Earth dist.	45 Jul 01 j 16:23	6°Z09'26	6.29516 AU	direct	51 Aug 21 j 17:04	22°X30'42	
morning rise	45 Jul 14 j 07:54	8°Z57'12			51 Nov 01 j 20:50	0°Z	
retrograde	45 Nov 14 j 04:16	26°Z35'05		evening set	51 Dec 24 j 14:30	11°Z26'54	
opposition	46 Jan 12 j 23:54	21°Z36'27	0°53'33				
min. Earth dist.	46 Jan 12 j 18:15	21°Z38'19	4.35145 AU	conjunction	52 Jan 06 j 10:10	14°Z29'27	0°-28'-40
direct	46 Mar 15 j 03:33	16°Z33'25		minimum elong	52 Jan 06 j 10:08	14°Z29'26	0°28'42
	46 Jun 29 j 07:29	0°Q		max. Earth dist.	52 Jan 05 j 19:43	14°Z20'52	6.06175 AU
evening set	46 Jul 20 j 08:08	4°Q27'23		morning rise	52 Jan 19 j 07:35	17°Z33'09	
					52 Mar 16 j 21:08	0°≈	
conjunction	46 Aug 02 j 16:02	7°Q21'13	0°52'00	retrograde	52 May 28 j 14:30	7°≈26'17	
minimum elong	46 Aug 02 j 15:59	7°Q21'12	0°52'00	opposition	52 Jul 28 j 01:26	2°≈27'52	-1°-10'-42
max. Earth dist.	46 Aug 02 j 10:17	7°Q18'06	6.39615 AU	min. Earth dist.	52 Jul 28 j 00:18	2°≈28'15	4.01148 AU
morning rise	46 Aug 15 j 21:14	10°Q13'36			52 Aug 16 j 17:08	30°RXZ	
	46 Sep 07 j 10:53	15°Q		direct	52 Sep 25 j 01:04	27°Z34'25	
retrograde	46 Dec 14 j 14:25	27°Q13'15			52 Nov 02 j 18:14	0°≈	
opposition	47 Feb 12 j 19:07	22°Q18'11	1°31'23		53 Jan 19 j 13:38	15°≈	
min. Earth dist.	47 Feb 13 j 06:53	22°Q14'21	4.42603 AU	evening set	53 Jan 28 j 00:21	17°≈00'43	
direct	47 Apr 16 j 00:06	17°Q15'04					
	47 Jul 28 j 17:28	0°P		conjunction	53 Feb 10 j 02:18	20°≈09'44	-1°00'-53
evening set	47 Aug 21 j 00:27	4°P53'46		minimum elong	53 Feb 10 j 02:15	20°≈09'42	1°00'54
max. Earth dist.	47 Sep 01 j 19:49	7°P27'08	6.43804 AU	max. Earth dist.	53 Feb 10 j 18:09	20°≈19'18	5.97818 AU
				morning rise	53 Feb 23 j 07:19	23°≈20'27	
conjunction	47 Sep 03 j 00:18	7°P42'36	1°09'48		53 Mar 23 j 22:42	0°K	
minimum elong	47 Sep 03 j 00:17	7°P42'35	1°09'47	retrograde	53 Jul 05 j 15:22	13°K53'45	
morning rise	47 Sep 15 j 20:59	10°P29'57		opposition	53 Sep 03 j 14:58	8°K51'24	-1°-43'-52
retrograde	48 Jan 13 j 22:47	27°P18'24		min. Earth dist.	53 Sep 02 j 17:37	8°K58'35	3.96636 AU
opposition	48 Mar 14 j 13:06	22°P25'50	1°43'54	direct	53 Oct 31 j 15:56	3°K57'26	
min. Earth dist.	48 Mar 15 j 15:13	22°P17'28	4.43402 AU	evening set	54 Mar 06 j 01:08	23°K34'52	
direct	48 May 16 j 06:22	17°P23'49					
	48 Aug 27 j 01:47	0°A		conjunction	54 Mar 19 j 11:10	26°K47'38	-1°-10'-7
evening set	48 Sep 19 j 19:46	5°A02'17		minimum elong	54 Mar 19 j 11:11	26°K47'39	1°10'07
max. Earth dist.	48 Sep 30 j 16:24	7°A24'58	6.41055 AU	max. Earth dist.	54 Mar 21 j 07:16	27°K14'05	5.97504 AU
					54 Apr 01 j 20:54	0°Y	
conjunction	48 Oct 02 j 13:21	7°A49'40	1°08'28	morning rise	54 Apr 02 j 00:10	0°Y01'56	
minimum elong	48 Oct 02 j 13:22	7°A49'41	1°08'28	retrograde	54 Aug 11 j 22:04	20°Y28'04	
morning rise	48 Oct 15 j 04:40	10°A36'00		min. Earth dist.	54 Oct 09 j 04:26	15°Y34'13	4.00690 AU
retrograde	49 Feb 13 j 06:25	27°A41'04		opposition	54 Oct 10 j 12:47	15°Y23'12	-1°-36'-3
opposition	49 Apr 15 j 02:55	22°A49'21	1°28'21	direct	54 Dec 07 j 11:34	10°Y26'53	
min. Earth dist.	49 Apr 16 j 13:37	22°A38'19	4.37301 AU	evening set	55 Apr 12 j 12:02	29°Y49'48	
direct	49 Jun 16 j 17:16	17°A49'15			55 Apr 13 j 05:33	0°B	
	49 Sep 24 j 03:52	0°M					
evening set	49 Oct 20 j 14:04	5°M42'36		conjunction	55 Apr 26 j 04:37	3°B01'56	0°-52'-12
max. Earth dist.	49 Oct 31 j 05:41	8°M05'46	6.32043 AU	minimum elong	55 Apr 26 j 04:40	3°B01'57	0°52'12
				max. Earth dist.	55 Apr 28 j 09:48	3°B33'03	6.05465 AU
conjunction	49 Nov 02 j 05:09	8°M32'27	0°48'00	morning rise	55 May 09 j 23:20	6°B14'53	
minimum elong	49 Nov 02 j 05:11	8°M32'29	0°47'59		55 Jun 18 j 12:49	15°B	
morning rise	49 Nov 14 j 18:49	11°M21'51		retrograde	55 Sep 16 j 03:15	25°B50'01	
	49 Dec 01 j 06:36	15°M		min. Earth dist.	55 Nov 13 j 07:59	20°B56'14	4.11608 AU
retrograde	50 Mar 18 j 05:19	29°M09'17		opposition	55 Nov 14 j 16:03	20°B45'18	0°-52'-29
opposition	50 May 18 j 05:24	24°M16'45	0°46'40	direct	56 Jan 12 j 09:09	15°B45'49	
min. Earth dist.	50 May 19 j 13:17	24°M06'35	4.25858 AU		56 Apr 27 j 05:20	0°II	
direct	50 Jul 18 j 22:40	19°M19'13		evening set	56 May 18 j 00:38	4°II36'48	
	50 Oct 17 j 06:15	0°X					
evening set	50 Nov 21 j 06:04	7°X40'32		conjunction	56 May 31 j 19:10	7°II44'01	0°-15'-58
max. Earth dist.	50 Dec 02 j 08:18	10°X14'11	6.19130 AU	minimum elong	56 May 31 j 19:11	7°II44'01	0°15'59
				max. Earth dist.	56 Jun 02 j 13:37	8°II08'06	6.18402 AU

morning rise	56 Jun 14 j 13:39	10°II50'56			62 Jan 31 j 08:16	0°♏	
retrograde	56 Oct 18 j 04:03	29°II18'31		retrograde	62 Mar 23 j 00:24	3°♏45'14	
asc. node	56 Nov 04 j 02:10	28°II49'56			62 May 14 j 01:05	30°♏	
opposition	56 Dec 16 j 18:25	24°II16'32	0°06'23	opposition	62 May 22 j 22:45	28°♏52'28	0°39'15
min. Earth dist.	56 Dec 15 j 22:41	24°II23'11	4.25173 AU	min. Earth dist.	62 May 24 j 06:32	28°♏42'19	4.23544 AU
direct	57 Feb 14 j 18:58	19°II14'35		direct	62 Jul 23 j 12:38	23°♏55'14	
	57 May 17 j 03:56	0°♏			62 Sep 27 j 02:12	0°♏	
evening set	57 Jun 21 j 19:35	7°♏30'50		evening set	62 Nov 25 j 18:44	12°♏22'57	
				max. Earth dist.	62 Dec 07 j 00:11	14°♏59'15	6.16738 AU
conjunction	57 Jul 05 j 10:01	10°♏30'42	0°24'03				
minimum elong	57 Jul 05 j 10:00	10°♏30'41	0°24'03	conjunction	62 Dec 08 j 11:06	15°♏19'34	0°06'51
max. Earth dist.	57 Jul 06 j 04:28	10°♏40'52	6.31541 AU	minimum elong	62 Dec 08 j 11:06	15°♏19'34	0°06'51
morning rise	57 Jul 18 j 22:37	13°♏29'25		behind sun begin	62 Dec 08 j 03:39	15°♏15'15	
	57 Oct 24 j 10:02	0°♏		behind sun end	62 Dec 08 j 18:33	15°♏23'53	
retrograde	57 Nov 18 j 08:21	0°♏59'19		morning rise	62 Dec 21 j 03:46	18°♏16'39	
	57 Dec 13 j 03:49	30°♏		desc. node	63 Feb 11 j 17:46	29°♏31'16	
opposition	58 Jan 17 j 06:19	26°♏01'09	0°59'58		63 Feb 14 j 08:27	0°♏	
min. Earth dist.	58 Jan 17 j 02:42	26°♏02'21	4.36853 AU	retrograde	63 Apr 27 j 13:16	7°♏16'31	
direct	58 Mar 19 j 13:42	20°♏58'00		opposition	63 Jun 27 j 08:02	2°♏21'14	0°-21'-8
	58 Jun 11 j 14:02	0°♏		min. Earth dist.	63 Jun 28 j 00:48	2°♏15'49	4.10047 AU
evening set	58 Jul 24 j 18:03	8°♏47'54			63 Jul 16 j 07:37	30°♏	
				direct	63 Aug 26 j 12:24	27°♏26'34	
conjunction	58 Aug 07 j 00:47	11°♏40'43	0°55'26		63 Oct 05 j 23:30	0°♏	
minimum elong	58 Aug 07 j 00:44	11°♏40'42	0°55'26	evening set	63 Dec 29 j 11:30	16°♏29'12	
max. Earth dist.	58 Aug 06 j 15:35	11°♏35'43	6.40867 AU				
morning rise	58 Aug 20 j 04:36	14°♏32'03		conjunction	64 Jan 11 j 07:52	19°♏32'55	0°-34'-5
	58 Aug 22 j 08:28	15°♏		minimum elong	64 Jan 11 j 07:50	19°♏32'53	0°34'06
	58 Nov 17 j 23:52	0°♏		max. Earth dist.	64 Jan 10 j 21:30	19°♏26'43	6.04252 AU
retrograde	58 Dec 18 j 17:15	1°♏27'40		morning rise	64 Jan 24 j 06:22	22°♏37'55	
	59 Jan 18 j 09:09	30°♏			64 Feb 25 j 10:30	0°♏	
opposition	59 Feb 16 j 23:09	26°♏33'03	1°34'37	retrograde	64 Jun 02 j 23:58	12°♏40'10	
min. Earth dist.	59 Feb 17 j 13:44	26°♏28'19	4.43325 AU	opposition	64 Aug 02 j 08:54	7°♏41'06	-1°-17'-25
direct	59 Apr 20 j 07:06	21°♏29'59		min. Earth dist.	64 Aug 02 j 04:17	7°♏42'38	3.99768 AU
	59 Jul 11 j 02:14	0°♏		direct	64 Sep 30 j 04:44	2°♏47'41	
evening set	59 Aug 25 j 05:47	9°♏07'13			65 Jan 01 j 17:55	15°♏	
max. Earth dist.	59 Sep 05 j 19:15	11°♏37'30	6.43908 AU	evening set	65 Feb 02 j 04:51	22°♏17'44	
conjunction	59 Sep 07 j 04:32	11°♏55'35	1°10'44	conjunction	65 Feb 15 j 08:03	25°♏27'35	-1°-3'-47
minimum elong	59 Sep 07 j 04:31	11°♏55'34	1°10'44	minimum elong	65 Feb 15 j 08:01	25°♏27'34	1°03'48
morning rise	59 Sep 20 j 00:25	14°♏42'33		max. Earth dist.	65 Feb 16 j 06:27	25°♏41'07	5.97114 AU
	59 Dec 17 j 13:45	0°♏		morning rise	65 Feb 28 j 14:07	28°♏39'07	
retrograde	60 Jan 18 j 03:56	1°♏31'34			65 Mar 06 j 05:44	0°♏	
	60 Feb 18 j 19:46	30°♏		retrograde	65 Jul 11 j 01:07	19°♏14'36	
opposition	60 Mar 18 j 18:30	26°♏39'10	1°43'25	opposition	65 Sep 08 j 22:42	14°♏11'43	-1°-45'-19
min. Earth dist.	60 Mar 19 j 23:07	26°♏30'00	4.42892 AU	min. Earth dist.	65 Sep 07 j 23:04	14°♏19'41	3.96711 AU
direct	60 May 20 j 12:25	21°♏37'15		direct	65 Nov 05 j 21:59	9°♏17'32	
	60 Aug 09 j 11:18	0°♏		evening set	66 Mar 11 j 09:10	28°♏54'00	
evening set	60 Sep 23 j 23:42	9°♏17'17			66 Mar 15 j 23:56	0°♏	
max. Earth dist.	60 Oct 04 j 19:22	11°♏39'47	6.39959 AU				
				conjunction	66 Mar 24 j 20:06	2°♏06'51	-1°-9'-6
conjunction	60 Oct 06 j 16:56	12°♏04'53	1°06'44	minimum elong	66 Mar 24 j 20:07	2°♏06'51	1°09'07
minimum elong	60 Oct 06 j 16:57	12°♏04'54	1°06'45	max. Earth dist.	66 Mar 26 j 18:14	2°♏34'25	5.98303 AU
morning rise	60 Oct 19 j 07:40	14°♏51'28		morning rise	66 Apr 07 j 10:16	5°♏21'13	
	61 Jan 11 j 23:04	0°♏		retrograde	66 Aug 16 j 23:50	25°♏41'25	
retrograde	61 Feb 17 j 15:16	2°♏01'38		min. Earth dist.	66 Oct 14 j 05:03	20°♏47'57	4.02102 AU
	61 Mar 26 j 15:56	30°♏		opposition	66 Oct 15 j 15:07	20°♏36'20	-1°-31'-36
opposition	61 Apr 19 j 12:51	27°♏09'54	1°24'05	direct	66 Dec 12 j 15:16	15°♏39'33	
min. Earth dist.	61 Apr 20 j 23:47	26°♏58'47	4.35680 AU		67 Mar 26 j 22:40	0°♏	
direct	61 Jun 21 j 00:18	22°♏10'07		evening set	67 Apr 17 j 17:35	4°♏57'40	
	61 Sep 05 j 23:33	0°♏					
evening set	61 Oct 24 j 20:51	10°♏07'51		conjunction	67 May 01 j 10:47	8°♏09'12	0°-47'-50
max. Earth dist.	61 Nov 04 j 11:44	12°♏31'19	6.30017 AU	minimum elong	67 May 01 j 10:50	8°♏09'14	0°47'51
				max. Earth dist.	67 May 03 j 15:47	8°♏40'05	6.07346 AU
conjunction	61 Nov 06 j 11:45	12°♏58'27	0°43'51	morning rise	67 May 15 j 05:43	11°♏21'23	
minimum elong	61 Nov 06 j 11:47	12°♏58'29	0°43'51		67 May 31 j 05:41	15°♏	
	61 Nov 15 j 11:00	15°♏			67 Aug 30 j 03:29	0°♏	
morning rise	61 Nov 19 j 01:42	15°♏48'47		retrograde	67 Sep 20 j 22:22	0°♏46'22	

	67 Oct 12 j 11:02	30°♄			72 Dec 15 j 21:26	0°♍	
min. Earth dist.	67 Nov 18 j 04:40	25°♄52'08	4.13717 AU	retrograde	73 Feb 22 j 05:07	6°♍30'15	
opposition	67 Nov 19 j 10:44	25°♄41'53	0°-44'-34	opposition	73 Apr 24 j 02:26	1°♍38'29	1°19'11
direct	68 Jan 17 j 08:51	20°♄42'00		min. Earth dist.	73 Apr 25 j 13:44	1°♍27'15	4.34046 AU
	68 Apr 08 j 13:50	0°♂			73 May 07 j 05:41	30°♄	
evening set	68 May 23 j 00:13	9°♂26'59		direct	73 Jun 25 j 11:34	26°♄39'03	
					73 Aug 12 j 21:29	0°♍	
conjunction	68 Jun 05 j 18:29	12°♂33'08	0°-10'-15	evening set	73 Oct 29 j 06:13	14°♍41'03	
minimum elong	68 Jun 05 j 18:30	12°♂33'09	0°10'15		73 Oct 30 j 15:54	15°♍	
behind sun begin	68 Jun 05 j 11:57	12°♂29'28		max. Earth dist.	73 Nov 08 j 23:21	17°♍06'23	6.28122 AU
behind sun end	68 Jun 06 j 01:03	12°♂36'49					
max. Earth dist.	68 Jun 07 j 10:39	12°♂55'49	6.20566 AU	conjunction	73 Nov 10 j 21:20	17°♍32'29	0°39'19
morning rise	68 Jun 19 j 12:24	15°♂38'51		minimum elong	73 Nov 10 j 21:22	17°♍32'30	0°39'18
	68 Sep 01 j 09:51	0°♄		morning rise	73 Nov 23 j 11:22	20°♍23'41	
asc. node	68 Sep 13 j 21:04	1°♄36'40			74 Jan 07 j 19:58	0°♄	
retrograde	68 Oct 22 j 13:25	3°♄56'36		retrograde	74 Mar 27 j 20:42	8°♄28'53	
	68 Dec 13 j 03:25	30°♄		opposition	74 May 27 j 19:22	3°♄35'55	0°31'20
min. Earth dist.	68 Dec 20 j 11:25	29°♄01'19	4.27207 AU	min. Earth dist.	74 May 29 j 01:12	3°♄26'23	4.21526 AU
opposition	68 Dec 21 j 05:48	28°♄55'09	0°14'36		74 Jun 28 j 09:50	30°♄	
direct	69 Feb 19 j 09:55	23°♄52'59		direct	74 Jul 28 j 04:34	28°♄39'11	
	69 Apr 26 j 17:11	0°♄			74 Aug 26 j 19:11	0°♄	
evening set	69 Jun 26 j 12:15	12°♄04'20		evening set	74 Nov 30 j 09:54	17°♄12'08	
				max. Earth dist.	74 Dec 11 j 17:57	19°♄50'42	6.14788 AU
conjunction	69 Jul 10 j 01:40	15°♄03'03	0°29'10				
minimum elong	69 Jul 10 j 01:38	15°♄03'02	0°29'10	conjunction	74 Dec 13 j 02:32	20°♄09'44	0°00'59
max. Earth dist.	69 Jul 10 j 15:14	15°♄10'31	6.33300 AU	minimum elong	74 Dec 13 j 02:31	20°♄09'43	0°00'58
morning rise	69 Jul 23 j 13:08	18°♄00'35		behind sun begin	74 Dec 12 j 18:30	20°♄05'04	
	69 Sep 22 j 12:17	0°♂		behind sun end	74 Dec 13 j 10:31	20°♄14'23	
retrograde	69 Nov 22 j 15:22	5°♂23'49		desc. node	74 Dec 22 j 05:58	22°♄17'55	
opposition	70 Jan 21 j 13:34	0°♂26'15	1°06'08	morning rise	74 Dec 25 j 19:57	23°♄07'57	
min. Earth dist.	70 Jan 21 j 13:30	0°♂26'17	4.38220 AU		75 Jan 25 j 09:09	0°♄	
	70 Jan 24 j 21:14	30°♄		retrograde	75 May 02 j 17:49	12°♄17'22	
direct	70 Mar 24 j 01:49	25°♄23'04		opposition	75 Jul 02 j 11:21	7°♄21'37	0°-29'-52
	70 May 20 j 19:23	0°♂		min. Earth dist.	75 Jul 03 j 00:59	7°♄17'11	4.08341 AU
evening set	70 Jul 29 j 04:37	13°♂10'06		direct	75 Aug 31 j 11:27	2°♄27'14	
	70 Aug 06 j 15:47	15°♂		evening set	76 Jan 03 j 09:24	21°♄34'15	
conjunction	70 Aug 11 j 10:14	16°♂02'08	0°58'38	conjunction	76 Jan 16 j 06:42	24°♄38'53	0°-39'-17
minimum elong	70 Aug 11 j 10:12	16°♂02'07	0°58'38	minimum elong	76 Jan 16 j 06:40	24°♄38'52	0°39'18
max. Earth dist.	70 Aug 10 j 20:59	15°♂54'57	6.41730 AU	max. Earth dist.	76 Jan 16 j 02:16	24°♄36'14	6.02970 AU
morning rise	70 Aug 24 j 12:53	18°♂52'40		morning rise	76 Jan 29 j 06:00	27°♄44'50	
	70 Oct 20 j 05:17	0°♄			76 Feb 07 j 19:03	0°♄	
retrograde	70 Dec 22 j 21:42	5°♄45'49			76 Apr 25 j 18:15	15°♄	
opposition	71 Feb 21 j 05:20	0°♄51'35	1°37'28	retrograde	76 Jun 08 j 08:45	17°♄53'21	
min. Earth dist.	71 Feb 21 j 21:52	0°♄46'13	4.43665 AU		76 Jul 22 j 05:01	15°♄	
	71 Feb 27 j 21:18	30°♄		opposition	76 Aug 07 j 15:32	12°♄53'44	-1°-23'-29
direct	71 Apr 24 j 14:37	25°♄48'39		min. Earth dist.	76 Aug 07 j 08:04	12°♄56'13	3.99078 AU
	71 Jun 18 j 22:06	0°♄		direct	76 Oct 05 j 07:30	8°♄00'23	
evening set	71 Aug 29 j 12:57	13°♄25'35			76 Dec 12 j 06:15	15°♄	
max. Earth dist.	71 Sep 09 j 23:50	15°♄54'37	6.43698 AU	evening set	77 Feb 07 j 08:13	27°♄31'42	
					77 Feb 17 j 14:38	0°♄	
conjunction	71 Sep 11 j 10:49	16°♄13'39	1°11'21	conjunction	77 Feb 20 j 12:13	0°♄41'59	-1°-6'-9
minimum elong	71 Sep 11 j 10:48	16°♄13'39	1°11'20	minimum elong	77 Feb 20 j 12:12	0°♄41'58	1°06'10
morning rise	71 Sep 24 j 05:41	19°♄00'21		max. Earth dist.	77 Feb 21 j 13:43	0°♄57'22	5.97045 AU
	71 Nov 19 j 01:03	0°♄		morning rise	77 Mar 05 j 19:33	3°♄54'01	
retrograde	72 Jan 22 j 11:28	5°♄51'05		retrograde	77 Jul 16 j 05:12	24°♄29'02	
opposition	72 Mar 23 j 02:51	0°♄58'56	1°42'22	min. Earth dist.	77 Sep 13 j 00:35	19°♄34'39	3.97296 AU
min. Earth dist.	72 Mar 24 j 09:10	0°♄49'15	4.42153 AU	opposition	77 Sep 14 j 03:12	19°♄25'40	-1°-45'-50
	72 Mar 30 j 20:22	30°♄		direct	77 Nov 11 j 01:13	14°♄31'10	
direct	72 May 24 j 21:00	25°♄57'21			78 Feb 27 j 02:38	0°♄	
	72 Jul 18 j 00:29	0°♄		evening set	78 Mar 16 j 13:41	4°♄05'02	
evening set	72 Sep 28 j 06:32	13°♄39'32					
max. Earth dist.	72 Oct 08 j 23:01	16°♄00'48	6.38735 AU	conjunction	78 Mar 30 j 01:40	7°♄17'47	-1°-7'-34
				minimum elong	78 Mar 30 j 01:42	7°♄17'48	1°07'35
conjunction	72 Oct 10 j 23:09	16°♄27'24	1°04'35	max. Earth dist.	78 Apr 01 j 02:18	7°♄46'46	5.99467 AU
minimum elong	72 Oct 10 j 23:11	16°♄27'25	1°04'35	morning rise	78 Apr 12 j 16:31	10°♄31'55	
morning rise	72 Oct 23 j 13:43	19°♄14'24					

	78 Jul 31 j 11:35	0°♄		morning rise	83 Sep 28 j 11:13	23°♎18'36	
retrograde	78 Aug 21 j 23:03	0°♄45'06			83 Oct 30 j 12:25	0°♎	
	78 Sep 12 j 04:54	30°♎♂		retrograde	84 Jan 26 j 19:15	10°♎11'54	
min. Earth dist.	78 Oct 19 j 04:04	25°♎51'14	4.03696 AU	opposition	84 Mar 27 j 12:04	5°♎19'52	1°40'44
opposition	78 Oct 20 j 13:16	25°♎39'54	-1°-26'-37	min. Earth dist.	84 Mar 28 j 18:52	5°♎10'02	4.41208 AU
direct	78 Dec 17 j 16:42	20°♎42'38		direct	84 May 29 j 05:09	0°♎18'32	
	79 Mar 08 j 07:36	0°♄		evening set	84 Oct 02 j 13:44	18°♎03'09	
evening set	79 Apr 22 j 19:03	9°♄55'40		max. Earth dist.	84 Oct 13 j 07:00	20°♎25'17	6.37452 AU
conjunction	79 May 06 j 12:43	13°♄06'33	0°-43'-17	conjunction	84 Oct 15 j 06:01	20°♎51'22	1°02'03
minimum elong	79 May 06 j 12:46	13°♄06'34	0°43'18	minimum elong	84 Oct 15 j 06:03	20°♎51'23	1°02'02
max. Earth dist.	79 May 08 j 17:16	13°♄37'00	6.09221 AU	morning rise	84 Oct 27 j 20:11	23°♎38'45	
	79 May 14 j 16:38	15°♄			84 Nov 26 j 14:54	0°♎	
morning rise	79 May 20 j 07:49	16°♄17'55		retrograde	85 Feb 26 j 19:01	11°♎00'18	
	79 Jul 26 j 02:39	0°♄		opposition	85 Apr 28 j 17:00	6°♎08'29	1°13'44
retrograde	79 Sep 25 j 11:35	5°♄33'01		min. Earth dist.	85 Apr 30 j 04:08	5°♎57'19	4.32496 AU
min. Earth dist.	79 Nov 22 j 19:41	0°♄38'51	4.15680 AU	direct	85 Jun 30 j 00:12	1°♎09'27	
opposition	79 Nov 24 j 01:03	0°♄28'52	0°-36'-38		85 Oct 14 j 11:23	15°♎	
	79 Nov 27 j 14:08	30°♎♄		evening set	85 Nov 02 j 16:21	19°♎15'04	
direct	80 Jan 22 j 01:49	25°♄28'36		max. Earth dist.	85 Nov 13 j 09:37	21°♎41'08	6.26428 AU
	80 Mar 17 j 02:56	0°♄					
evening set	80 May 27 j 20:01	14°♄08'25		conjunction	85 Nov 15 j 07:20	22°♎07'10	0°34'30
				minimum elong	85 Nov 15 j 07:22	22°♎07'12	0°34'30
conjunction	80 Jun 10 j 13:48	17°♄13'34	0°-4'-40	morning rise	85 Nov 27 j 21:47	24°♎59'12	
minimum elong	80 Jun 10 j 13:49	17°♄13'34	0°04'41		85 Dec 20 j 12:33	0°♄	
behind sun begin	80 Jun 10 j 05:40	17°♄09'00		retrograde	86 Apr 01 j 17:22	13°♄12'16	
behind sun end	80 Jun 10 j 21:58	17°♄18'08		opposition	86 Jun 01 j 16:03	8°♄18'57	0°23'09
max. Earth dist.	80 Jun 12 j 01:03	17°♄33'23	6.22457 AU	min. Earth dist.	86 Jun 02 j 19:43	8°♄10'05	4.19784 AU
morning rise	80 Jun 24 j 07:12	20°♄18'12		direct	86 Aug 01 j 21:19	3°♄22'32	
asc. node	80 Jul 25 j 21:23	27°♄06'10		desc. node	86 Nov 01 j 02:41	14°♄26'02	
	80 Aug 09 j 15:28	0°♄		evening set	86 Dec 05 j 00:43	21°♄59'38	
retrograde	80 Oct 26 j 21:59	8°♄27'32					
opposition	80 Dec 25 j 14:29	3°♄26'35	0°22'28	conjunction	86 Dec 17 j 17:56	24°♄58'08	0°-4'-56
min. Earth dist.	80 Dec 24 j 23:33	3°♄31'36	4.28865 AU	minimum elong	86 Dec 17 j 17:56	24°♄58'08	0°04'57
	81 Jan 23 j 01:23	30°♎♄		behind sun begin	86 Dec 17 j 10:08	24°♄53'35	
direct	81 Feb 24 j 00:11	28°♄24'10		behind sun end	86 Dec 18 j 01:45	25°♄02'42	
	81 Mar 28 j 08:41	0°♄		max. Earth dist.	86 Dec 16 j 13:56	24°♄41'43	6.13155 AU
evening set	81 Jul 01 j 01:53	16°♄31'51		morning rise	86 Dec 30 j 11:52	27°♄57'19	
					87 Jan 08 j 07:43	0°♄	
conjunction	81 Jul 14 j 14:30	19°♄29'39	0°33'59	retrograde	87 May 07 j 21:34	17°♄14'53	
minimum elong	81 Jul 14 j 14:28	19°♄29'38	0°33'59	opposition	87 Jul 07 j 13:27	12°♄18'41	0°-38'-21
max. Earth dist.	81 Jul 15 j 01:01	19°♄35'25	6.34605 AU	min. Earth dist.	87 Jul 08 j 00:49	12°♄14'59	4.06946 AU
morning rise	81 Jul 28 j 00:45	22°♄26'10		direct	87 Sep 05 j 09:05	7°♄24'34	
	81 Sep 02 j 07:48	0°♄		evening set	88 Jan 08 j 06:14	26°♄35'00	
retrograde	81 Nov 26 j 18:53	9°♄44'26					
opposition	82 Jan 25 j 19:10	4°♄47'22	1°11'48	conjunction	88 Jan 21 j 04:09	29°♄40'25	0°-44'-10
min. Earth dist.	82 Jan 25 j 20:49	4°♄46'49	4.39117 AU	minimum elong	88 Jan 21 j 04:06	29°♄40'23	0°44'11
	82 Mar 15 j 09:02	30°♎♄		max. Earth dist.	88 Jan 21 j 02:24	29°♄39'22	6.01917 AU
direct	82 Mar 28 j 09:44	29°♄44'09			88 Jan 22 j 12:49	0°♄	
	82 Apr 10 j 14:20	0°♄		morning rise	88 Feb 03 j 04:35	2°♄47'17	
	82 Jul 21 j 21:15	15°♄			88 Mar 29 j 21:56	15°♄	
evening set	82 Aug 02 j 14:03	17°♄29'46		retrograde	88 Jun 13 j 12:47	23°♄01'13	
				opposition	88 Aug 12 j 19:50	18°♄01'02	-1°-28'-51
conjunction	82 Aug 15 j 18:28	20°♄21'09	1°01'26	min. Earth dist.	88 Aug 12 j 08:44	18°♄04'43	3.98492 AU
minimum elong	82 Aug 15 j 18:26	20°♄21'08	1°01'26		88 Sep 06 j 09:20	15°♎	
max. Earth dist.	82 Aug 15 j 01:11	20°♄11'46	6.42153 AU	direct	88 Oct 10 j 07:51	13°♄07'39	
morning rise	82 Aug 28 j 20:02	23°♄11'04			88 Nov 12 j 23:39	15°♄	
	82 Sep 30 j 16:19	0°♎			89 Feb 01 j 04:12	0°♎	
retrograde	82 Dec 27 j 03:38	10°♎03'04		evening set	89 Feb 12 j 10:01	2°♎40'20	
opposition	83 Feb 25 j 11:20	5°♎09'15	1°39'45				
min. Earth dist.	83 Feb 26 j 06:51	5°♎02'56	4.43617 AU	conjunction	89 Feb 25 j 15:11	5°♎51'08	-1°-8'00
direct	83 Apr 28 j 23:42	0°♎06'26		minimum elong	89 Feb 25 j 15:10	5°♎51'08	1°08'00
evening set	83 Sep 02 j 20:00	17°♎44'02		max. Earth dist.	89 Feb 26 j 21:07	6°♎09'11	5.96974 AU
max. Earth dist.	83 Sep 14 j 03:23	20°♎11'27	6.43171 AU	morning rise	89 Mar 10 j 23:26	9°♎03'38	
				retrograde	89 Jul 21 j 09:53	29°♎38'17	
conjunction	83 Sep 15 j 17:03	20°♎31'59	1°11'32	min. Earth dist.	89 Sep 18 j 02:23	24°♎43'44	3.97754 AU
minimum elong	83 Sep 15 j 17:03	20°♎31'59	1°11'33	opposition	89 Sep 19 j 05:30	24°♎34'34	-1°-45'-35

direct	89 Nov 16 j 04:13	19° κ 39'45		conjunction	95 Sep 20 j 00:22	24° η 54'35	1°11'23
	90 Feb 08 j 22:11	0° γ		minimum elong	95 Sep 20 j 00:23	24° η 54'35	1°11'23
evening set	90 Mar 21 j 17:16	9° γ 12'02		morning rise	95 Oct 02 j 17:45	27° η 40'59	
					95 Oct 13 j 12:10	0° ε	
conjunction	90 Apr 04 j 06:16	12° γ 24'50	-1°-5'-34	retrograde	96 Jan 31 j 04:53	14° ε 35'52	
minimum elong	90 Apr 04 j 06:18	12° γ 24'51	1°05'34	opposition	96 Mar 31 j 22:32	9° ε 43'59	1°38'34
max. Earth dist.	90 Apr 06 j 08:44	12° γ 54'48	6.00400 AU	min. Earth dist.	96 Apr 02 j 06:40	9° ε 33'45	4.40667 AU
morning rise	90 Apr 17 j 22:02	15° γ 38'56		direct	96 Jun 02 j 16:45	4° ε 42'58	
	90 Jun 25 j 07:19	0° δ		evening set	96 Oct 06 j 21:06	22° ε 28'23	
retrograde	90 Aug 26 j 20:12	5° δ 45'58		max. Earth dist.	96 Oct 17 j 13:00	24° ε 50'07	6.36637 AU
min. Earth dist.	90 Oct 24 j 00:21	0° δ 52'18	4.05003 AU				
opposition	90 Oct 25 j 10:06	0° δ 40'48	-1°-21'-4	conjunction	96 Oct 19 j 12:56	25° ε 16'44	0°59'12
	90 Oct 30 j 10:09	30° κ γ		minimum elong	96 Oct 19 j 12:57	25° ε 16'45	0°59'11
direct	90 Dec 22 j 14:17	25° γ 43'08		morning rise	96 Nov 01 j 02:54	28° ε 04'22	
	91 Feb 13 j 00:59	0° δ			96 Nov 09 j 21:24	0° κ	
evening set	91 Apr 27 j 20:27	14° δ 52'35			97 Feb 13 j 08:39	15° κ	
	91 Apr 28 j 09:22	15° δ		retrograde	97 Mar 03 j 07:28	15° κ 30'05	
					97 Mar 21 j 07:51	15° κ κ	
conjunction	91 May 11 j 14:26	18° δ 02'56	0°-38'-27	opposition	97 May 03 j 07:07	10° κ 38'05	1°07'56
minimum elong	91 May 11 j 14:29	18° δ 02'58	0°38'28	min. Earth dist.	97 May 04 j 16:53	10° κ 27'20	4.31451 AU
max. Earth dist.	91 May 13 j 16:06	18° δ 31'37	6.10778 AU	direct	97 Jul 04 j 11:34	5° κ 39'21	
morning rise	91 May 25 j 09:49	21° δ 13'42			97 Sep 26 j 21:56	15° κ	
	91 Jul 04 j 16:05	0° ι		evening set	97 Nov 07 j 00:54	23° κ 46'47	
retrograde	91 Sep 30 j 02:22	10° ι 20'26		max. Earth dist.	97 Nov 17 j 21:15	26° κ 14'57	6.25246 AU
opposition	91 Nov 28 j 15:50	5° ι 16'37	0°-28'-28				
min. Earth dist.	91 Nov 27 j 12:43	5° ι 25'49	4.17308 AU	conjunction	97 Nov 19 j 16:01	26° κ 39'23	0°29'36
direct	92 Jan 26 j 21:23	0° ι 15'59		minimum elong	97 Nov 19 j 16:03	26° κ 39'24	0°29'36
evening set	92 Jun 01 j 16:37	18° ι 51'56		morning rise	97 Dec 02 j 06:31	29° κ 31'58	
asc. node	92 Jun 05 j 01:28	19° ι 37'01			97 Dec 04 j 07:57	0° ♏	
				retrograde	98 Apr 06 j 12:33	17° ♏ 51'13	
conjunction	92 Jun 15 j 10:12	21° ι 56'17	0°01'06	opposition	98 Jun 06 j 10:45	12° ♏ 57'35	0°15'02
minimum elong	92 Jun 15 j 10:12	21° ι 56'17	0°01'05	min. Earth dist.	98 Jun 07 j 13:28	12° ♏ 49'01	4.18524 AU
behind sun begin	92 Jun 15 j 01:51	21° ι 51'38		direct	98 Aug 06 j 13:00	8° ♏ 01'29	
behind sun end	92 Jun 15 j 18:33	22° ι 00'56		desc. node	98 Sep 12 j 19:01	10° ♏ 09'09	
max. Earth dist.	92 Jun 16 j 19:36	22° ι 15'00	6.24045 AU	evening set	98 Dec 09 j 12:57	26° ♏ 41'07	
morning rise	92 Jun 29 j 02:46	24° ι 59'55		max. Earth dist.	98 Dec 21 j 03:44	29° ♏ 24'35	6.11920 AU
	92 Jul 22 j 03:11	0° ♏					
retrograde	92 Oct 31 j 06:56	13° ♏ 01'56		conjunction	98 Dec 22 j 06:26	29° ♏ 40'16	0°-10'-31
min. Earth dist.	92 Dec 29 j 10:59	8° ♏ 06'02	4.30285 AU	minimum elong	98 Dec 22 j 06:25	29° ♏ 40'15	0°10'32
opposition	92 Dec 30 j 00:21	8° ♏ 01'34	0°30'17	behind sun begin	98 Dec 22 j 00:06	29° ♏ 36'34	
direct	93 Feb 28 j 13:25	2° ♏ 59'02		behind sun end	98 Dec 22 j 12:43	29° ♏ 43'57	
evening set	93 Jul 05 j 17:30	21° ♏ 03'54			98 Dec 23 j 16:00	0° ♏	
				morning rise	99 Jan 04 j 01:08	2° ♏ 40'16	
conjunction	93 Jul 19 j 04:58	24° ♏ 00'49	0°38'41	retrograde	99 May 12 j 19:34	22° ♏ 04'37	
minimum elong	93 Jul 19 j 04:56	24° ♏ 00'47	0°38'41	opposition	99 Jul 12 j 11:47	17° ♏ 07'52	0°-46'-16
max. Earth dist.	93 Jul 19 j 10:24	24° ♏ 03'47	6.35752 AU	min. Earth dist.	99 Jul 12 j 19:55	17° ♏ 05'12	4.05844 AU
morning rise	93 Aug 01 j 14:15	26° ♏ 56'25		direct	99 Sep 10 j 02:30	12° ♏ 13'52	
	93 Aug 15 j 19:53	0° ♏			100 Jan 06 j 20:59	0° ♏	
retrograde	93 Dec 01 j 02:42	14° ♏ 10'15		evening set	100 Jan 12 j 23:36	1° ♏ 27'00	
opposition	94 Jan 30 j 03:00	9° ♏ 13'44	1°17'12				
min. Earth dist.	94 Jan 30 j 07:45	9° ♏ 12'10	4.39945 AU	conjunction	100 Jan 25 j 22:24	4° ♏ 33'08	0°-48'-32
direct	94 Apr 01 j 22:09	4° ♏ 10'33		minimum elong	100 Jan 25 j 22:21	4° ♏ 33'07	0°48'34
	94 Jul 04 j 15:55	15° ♏		max. Earth dist.	100 Jan 26 j 01:03	4° ♏ 34'44	6.01051 AU
evening set	94 Aug 07 j 00:59	21° ♏ 54'44		morning rise	100 Feb 07 j 23:36	7° ♏ 40'45	
max. Earth dist.	94 Aug 19 j 09:33	24° ♏ 35'15	6.42614 AU		100 Mar 10 j 18:20	15° ♏	
				retrograde	100 Jun 18 j 15:14	27° ♏ 59'21	
conjunction	94 Aug 20 j 04:29	24° ♏ 45'32	1°04'00	opposition	100 Aug 17 j 19:50	22° ♏ 58'40	-1°-33'-23
minimum elong	94 Aug 20 j 04:27	24° ♏ 45'31	1°03'59	min. Earth dist.	100 Aug 17 j 07:43	23° ♏ 02'42	3.97961 AU
morning rise	94 Sep 02 j 04:48	27° ♏ 34'48		direct	100 Oct 15 j 06:03	18° ♏ 05'09	
	94 Sep 13 j 12:31	0° ♏					
retrograde	94 Dec 31 j 09:05	14° ♏ 25'35					
opposition	95 Mar 01 j 19:24	9° ♏ 32'06	1°41'35				
min. Earth dist.	95 Mar 02 j 15:24	9° ♏ 25'39	4.43732 AU				
direct	95 May 03 j 08:24	4° ♏ 29'31					
evening set	95 Sep 07 j 04:18	22° ♏ 06'55					
max. Earth dist.	95 Sep 18 j 09:29	24° ♏ 33'21	6.42947 AU				

	100 Jan 06 j 20:59	0°♊		conjunction	105 Jul 23 j 18:30	28°♊29'23	0°43'06
evening set	100 Jan 12 j 23:36	1°♊27'00		minimum elong	105 Jul 23 j 18:28	28°♊29'22	0°43'06
				max. Earth dist.	105 Jul 23 j 22:27	28°♊31'33	6.36879 AU
conjunction	100 Jan 25 j 22:24	4°♊33'08	0°-48'-32		105 Jul 30 j 16:10	0°♋	
minimum elong	100 Jan 25 j 22:21	4°♊33'07	0°48'34	morning rise	105 Aug 06 j 02:25	1°♋24'00	
max. Earth dist.	100 Jan 26 j 01:03	4°♊34'44	6.01051 AU		105 Oct 17 j 13:00	15°♋	
morning rise	100 Feb 07 j 23:36	7°♊40'45		retrograde	105 Dec 05 j 07:54	18°♋23'20	
	100 Mar 10 j 18:20	15°♊			106 Jan 23 j 17:54	15°♌♋	
retrograde	100 Jun 18 j 15:14	27°♊59'21		opposition	106 Feb 03 j 10:09	13°♌37'15	1°22'06
opposition	100 Aug 17 j 19:50	22°♊58'40	-1°-33'-23	min. Earth dist.	106 Feb 03 j 16:09	13°♌35'17	4.40813 AU
min. Earth dist.	100 Aug 17 j 07:43	23°♊02'42	3.97961 AU	direct	106 Apr 06 j 07:58	8°♌34'06	
direct	100 Oct 15 j 06:03	18°♊05'09			106 Jun 14 j 23:42	15°♌	
	101 Jan 15 j 05:29	0°♋		evening set	106 Aug 11 j 10:54	26°♌16'21	
evening set	101 Feb 17 j 08:12	7°♋39'18					
conjunction	101 Mar 02 j 14:25	10°♋50'40	-1°-9'-17	conjunction	106 Aug 24 j 13:04	29°♌06'27	1°06'09
minimum elong	101 Mar 02 j 14:24	10°♋50'39	1°09'18	minimum elong	106 Aug 24 j 13:03	29°♌06'26	1°06'09
max. Earth dist.	101 Mar 03 j 22:48	11°♋10'10	5.96817 AU	max. Earth dist.	106 Aug 23 j 14:06	28°♌53'58	6.43119 AU
morning rise	101 Mar 15 j 23:52	14°♋03'45		morning rise	106 Aug 28 j 15:43	0°♍	
	101 May 31 j 18:54	0°♎		retrograde	106 Sep 06 j 12:23	1°♍55'04	
retrograde	101 Jul 26 j 09:34	4°♎38'17		opposition	107 Jan 04 j 15:54	18°♍44'25	
	101 Sep 20 j 23:49	30°♎♋		min. Earth dist.	107 Mar 06 j 02:32	13°♍51'13	1°42'48
min. Earth dist.	101 Sep 22 j 23:01	29°♋44'02	3.98019 AU	direct	107 Mar 07 j 01:14	13°♍43'54	4.43828 AU
opposition	101 Sep 24 j 03:51	29°♋34'16	-1°-44'-36	evening set	107 May 07 j 18:23	8°♍48'44	
direct	101 Nov 21 j 00:42	24°♋39'08		max. Earth dist.	107 Sep 11 j 11:00	26°♍25'54	
	102 Jan 18 j 12:30	0°♎			107 Sep 22 j 14:10	28°♍51'24	6.42590 AU
evening set	102 Mar 26 j 17:50	14°♎10'52		conjunction	107 Sep 24 j 06:24	29°♍13'23	1°10'50
conjunction	102 Apr 09 j 07:43	17°♎23'47	-1°-3'-9	minimum elong	107 Sep 24 j 06:25	29°♍13'24	1°10'49
minimum elong	102 Apr 09 j 07:46	17°♎23'49	1°03'09	morning rise	107 Sep 27 j 19:39	0°♏	
max. Earth dist.	102 Apr 11 j 09:44	17°♎53'26	6.01055 AU	retrograde	107 Oct 06 j 22:58	1°♏59'38	
morning rise	102 Apr 23 j 00:25	20°♎37'58		opposition	108 Feb 04 j 12:14	18°♏56'44	
	102 Jun 04 j 00:04	0°♐		min. Earth dist.	108 Apr 05 j 08:04	14°♏04'55	1°35'52
retrograde	102 Aug 31 j 14:59	10°♐40'10		direct	108 Apr 06 j 16:12	13°♏54'40	4.39864 AU
min. Earth dist.	102 Oct 28 j 19:18	5°♐46'17	4.05969 AU	evening set	108 Jun 07 j 00:28	9°♏04'10	
opposition	102 Oct 30 j 04:20	5°♐35'00	-1°-15'-9	max. Earth dist.	108 Oct 11 j 03:34	26°♏51'25	
direct	102 Dec 27 j 10:59	0°♐36'54			108 Oct 21 j 19:17	29°♏13'28	6.35436 AU
	103 Apr 11 j 19:17	15°♐		conjunction	108 Oct 23 j 19:00	29°♏40'06	0°56'00
evening set	103 May 02 j 19:56	19°♐44'05		minimum elong	108 Oct 23 j 19:02	29°♏40'07	0°56'01
conjunction	103 May 16 j 14:29	22°♐54'07	0°-33'-27	morning rise	108 Oct 25 j 06:41	0°♑	
minimum elong	103 May 16 j 14:32	22°♐54'09	0°33'28		108 Nov 05 j 08:47	2°♑28'08	
max. Earth dist.	103 May 18 j 16:18	23°♐22'48	6.12005 AU	retrograde	109 Jan 07 j 19:30	15°♑	
morning rise	103 May 30 j 09:49	26°♐04'20		opposition	109 Mar 07 j 22:42	19°♑59'42	
	103 Jun 16 j 21:19	0°♒			109 May 07 j 21:40	15°♑07'37	1°01'41
retrograde	103 Oct 04 j 16:31	15°♒03'48		min. Earth dist.	109 May 08 j 21:37	15°♒♑	
min. Earth dist.	103 Dec 02 j 03:09	10°♒09'12	4.18668 AU	direct	109 May 09 j 08:13	14°♒56'38	4.29891 AU
opposition	103 Dec 03 j 05:09	10°♒00'24	0°-20'-18		109 Jul 09 j 00:18	10°♒09'15	
direct	104 Jan 31 j 14:02	4°♒59'28		evening set	109 Sep 05 j 13:03	15°♒	
asc. node	104 Apr 15 j 18:48	12°♒50'00			109 Nov 11 j 10:24	28°♒20'31	
evening set	104 Jun 06 j 12:25	23°♒32'23		max. Earth dist.	109 Nov 18 j 16:41	0°♓	
conjunction	104 Jun 20 j 05:22	26°♒35'55	0°06'42	conjunction	109 Nov 22 j 07:06	0°♓49'31	6.23457 AU
minimum elong	104 Jun 20 j 05:21	26°♒35'54	0°06'42	minimum elong	109 Nov 24 j 01:38	1°♓13'54	0°24'26
behind sun begin	104 Jun 19 j 21:35	26°♒31'36		morning rise	109 Nov 24 j 01:39	1°♓13'55	0°24'26
behind sun end	104 Jun 20 j 13:06	26°♒40'13		retrograde	109 Dec 06 j 16:36	4°♓07'24	
max. Earth dist.	104 Jun 21 j 10:45	26°♒52'20	6.25431 AU	opposition	110 Apr 11 j 09:02	22°♓35'17	
morning rise	104 Jul 03 j 21:23	29°♒38'40		min. Earth dist.	110 Jun 11 j 07:20	17°♓41'19	0°06'36
	104 Jul 05 j 11:55	0°♓		desc. node	110 Jun 12 j 07:28	17°♓33'34	4.16626 AU
retrograde	104 Nov 04 j 15:51	17°♓34'00		direct	110 Jul 24 j 04:36	13°♓16'16	
opposition	105 Jan 03 j 09:51	12°♓34'05	0°37'49		110 Aug 11 j 03:48	12°♓45'32	
min. Earth dist.	105 Jan 02 j 22:42	12°♓37'49	4.31591 AU	evening set	110 Dec 07 j 17:11	0°♔	
direct	105 Mar 05 j 03:32	7°♓31'21			110 Dec 14 j 04:19	1°♔30'21	
evening set	105 Jul 10 j 07:54	25°♓33'21		conjunction	110 Dec 26 j 22:27	4°♔30'32	0°-16'-15
				minimum elong	110 Dec 26 j 22:26	4°♔30'32	0°16'15

behind sun begin	110 Dec 26 j 22:08	4°♄30'21		behind sun begin	116 Jun 24 j 18:33	1°♄12'04	
behind sun end	110 Dec 26 j 22:44	4°♄30'42		behind sun end	116 Jun 25 j 05:25	1°♄18'05	
max. Earth dist.	110 Dec 25 j 23:56	4°♄17'15	6.10087 AU	max. Earth dist.	116 Jun 26 j 03:06	1°♄30'10	6.27589 AU
morning rise	111 Jan 08 j 17:49	7°♄31'39		morning rise	116 Jul 08 j 14:53	4°♄16'27	
retrograde	111 May 18 j 00:47	27°♄05'13		retrograde	116 Nov 08 j 22:57	22°♄02'39	
opposition	111 Jul 17 j 14:29	22°♄08'00	0°-54'-13	opposition	117 Jan 07 j 17:47	17°♄03'16	0°44'58
min. Earth dist.	111 Jul 17 j 20:57	22°♄05'53	4.04236 AU	min. Earth dist.	117 Jan 07 j 09:00	17°♄06'11	4.33551 AU
direct	111 Sep 15 j 01:26	17°♄14'12		direct	117 Mar 09 j 16:22	12°♄00'22	
	111 Dec 20 j 18:03	0°♄		evening set	117 Jul 14 j 19:53	29°♄57'22	
evening set	112 Jan 17 j 22:09	6°♄32'00			117 Jul 15 j 00:45	0°♄	
conjunction	112 Jan 30 j 21:51	9°♄39'06	0°-52'-46	conjunction	117 Jul 28 j 05:11	2°♄52'15	0°47'10
minimum elong	112 Jan 30 j 21:49	9°♄39'05	0°52'47	minimum elong	117 Jul 28 j 05:09	2°♄52'13	0°47'09
max. Earth dist.	112 Jan 31 j 04:06	9°♄42'52	5.99814 AU	max. Earth dist.	117 Jul 28 j 03:59	2°♄51'35	6.38470 AU
morning rise	112 Feb 13 j 00:16	12°♄47'47		morning rise	117 Aug 10 j 11:57	5°♄45'42	
	112 Feb 22 j 07:10	15°♄			117 Sep 24 j 23:50	15°♄	
	112 May 09 j 01:33	0°♄		retrograde	117 Dec 09 j 11:12	22°♄49'26	
retrograde	112 Jun 23 j 22:07	3°♄12'10		opposition	118 Feb 07 j 14:35	17°♄53'45	1°26'21
	112 Aug 09 j 03:00	30°♄		min. Earth dist.	118 Feb 07 j 23:34	17°♄50'49	4.41944 AU
min. Earth dist.	112 Aug 22 j 09:35	28°♄16'15	3.97267 AU		118 Mar 03 j 07:18	15°♄	
opposition	112 Aug 23 j 01:13	28°♄11'02	-1°-37'-26	direct	118 Apr 10 j 16:06	12°♄50'30	
direct	112 Oct 20 j 07:19	23°♄17'29			118 May 19 j 09:48	15°♄	
	112 Dec 25 j 12:03	0°♄			118 Aug 13 j 08:50	0°♄	
evening set	113 Feb 22 j 12:44	12°♄53'42		evening set	118 Aug 15 j 16:57	0°♄30'08	
conjunction	113 Mar 07 j 20:01	16°♄05'37	-1°-10'-6	conjunction	118 Aug 28 j 18:12	3°♄19'35	1°07'52
minimum elong	113 Mar 07 j 20:01	16°♄05'37	1°10'07	minimum elong	118 Aug 28 j 18:10	3°♄19'34	1°07'53
max. Earth dist.	113 Mar 09 j 07:18	16°♄26'51	5.96725 AU	max. Earth dist.	118 Aug 27 j 16:59	3°♄05'54	6.43686 AU
morning rise	113 Mar 21 j 06:39	19°♄19'14		morning rise	118 Sep 10 j 16:15	6°♄07'31	
	113 May 07 j 21:19	0°♄		retrograde	119 Jan 08 j 18:00	22°♄55'40	
retrograde	113 Jul 31 j 13:34	9°♄52'50		opposition	119 Mar 10 j 06:46	18°♄02'43	1°43'27
min. Earth dist.	113 Sep 28 j 01:02	4°♄58'46	3.98562 AU	min. Earth dist.	119 Mar 11 j 07:03	17°♄54'55	4.43804 AU
opposition	113 Sep 29 j 07:16	4°♄48'29	-1°-42'-44	direct	119 May 11 j 22:58	13°♄00'23	
	113 Nov 18 j 01:05	30°♄			119 Sep 12 j 16:50	0°♄	
direct	113 Nov 26 j 04:28	29°♄53'02		evening set	119 Sep 15 j 14:35	0°♄37'47	
	113 Dec 04 j 08:14	0°♄		max. Earth dist.	119 Sep 26 j 13:24	3°♄01'14	6.41951 AU
evening set	114 Mar 31 j 23:48	19°♄22'57		conjunction	119 Sep 28 j 09:07	3°♄25'11	1°09'54
conjunction	114 Apr 14 j 14:47	22°♄35'48	-1°00'-9	minimum elong	119 Sep 28 j 09:08	3°♄25'11	1°09'53
minimum elong	114 Apr 14 j 14:49	22°♄35'49	1°00'10	morning rise	119 Oct 11 j 01:13	6°♄11'28	
max. Earth dist.	114 Apr 16 j 19:55	23°♄07'11	6.02218 AU	retrograde	120 Feb 08 j 20:30	23°♄12'00	
morning rise	114 Apr 28 j 08:03	25°♄49'43		opposition	120 Apr 09 j 15:44	18°♄20'14	1°32'44
	114 May 16 j 10:36	0°♄		min. Earth dist.	120 Apr 11 j 02:12	18°♄09'15	4.38637 AU
	114 Aug 15 j 07:28	15°♄		direct	120 Jun 11 j 07:53	13°♄19'40	
retrograde	114 Sep 05 j 13:41	15°♄44'15			120 Oct 10 j 01:08	0°♄	
	114 Sep 26 j 14:03	15°♄		evening set	120 Oct 15 j 08:13	1°♄10'13	
min. Earth dist.	114 Nov 02 j 16:55	10°♄50'27	4.07631 AU	max. Earth dist.	120 Oct 25 j 23:09	3°♄32'24	6.33710 AU
opposition	114 Nov 04 j 01:56	10°♄39'12	-1°-8'-28	conjunction	120 Oct 27 j 23:37	3°♄59'32	0°52'34
direct	115 Jan 01 j 11:39	5°♄40'44		minimum elong	120 Oct 27 j 23:39	3°♄59'33	0°52'34
	115 Mar 23 j 22:21	15°♄		morning rise	120 Nov 09 j 13:21	6°♄48'16	
evening set	115 May 07 j 22:18	24°♄42'47			120 Dec 18 j 05:29	15°♄	
conjunction	115 May 21 j 16:49	27°♄51'56	0°-28'-8	retrograde	121 Mar 12 j 12:00	24°♄27'34	
minimum elong	115 May 21 j 16:51	27°♄51'58	0°28'08	opposition	121 May 12 j 11:33	19°♄35'18	0°55'11
max. Earth dist.	115 May 23 j 16:27	28°♄19'14	6.14022 AU	min. Earth dist.	121 May 13 j 20:54	19°♄24'40	4.27772 AU
	115 May 31 j 00:40	0°♄			121 Jun 27 j 16:48	15°♄	
morning rise	115 Jun 04 j 12:10	1°♄01'11		direct	121 Jul 13 j 09:08	14°♄37'15	
retrograde	115 Oct 09 j 05:07	19°♄50'18			121 Jul 29 j 02:58	15°♄	
opposition	115 Dec 07 j 19:22	14°♄47'13	0°-11'-57		121 Nov 02 j 23:12	0°♄	
min. Earth dist.	115 Dec 06 j 18:29	14°♄55'39	4.20836 AU	evening set	121 Nov 15 j 20:00	2°♄54'21	
direct	116 Feb 05 j 09:02	9°♄45'55		max. Earth dist.	121 Nov 26 j 19:02	5°♄25'28	6.21121 AU
asc. node	116 Feb 25 j 05:43	10°♄23'55		conjunction	121 Nov 28 j 11:31	5°♄48'49	0°19'09
evening set	116 Jun 11 j 07:41	28°♄12'47		minimum elong	121 Nov 28 j 11:32	5°♄48'50	0°19'09
	116 Jun 19 j 09:03	0°♄		morning rise	121 Dec 11 j 03:00	8°♄43'32	
conjunction	116 Jun 25 j 00:00	1°♄15'05	0°12'12	retrograde	122 Apr 16 j 10:08	27°♄22'14	
minimum elong	116 Jun 24 j 23:59	1°♄15'05	0°12'12	desc. node	122 Jun 03 j 21:46	24°♄01'20	

opposition	122 Jun 16 j 05:45	22°♂27'54	0°-1'-54	direct	128 Feb 10 j 04:07	14°♂30'51	
min. Earth dist.	122 Jun 17 j 04:48	22°♂20'29	4.14233 AU		128 Jun 02 j 22:39	0°♂	
direct	122 Aug 15 j 21:56	17°♂32'28		evening set	128 Jun 16 j 02:41	2°♂52'14	
	122 Nov 20 j 19:37	0°♂					
evening set	122 Dec 18 j 21:41	6°♂24'06		conjunction	128 Jun 29 j 18:10	5°♂53'22	0°17'40
				minimum elong	128 Jun 29 j 18:09	5°♂53'22	0°17'40
conjunction	122 Dec 31 j 16:33	9°♂25'35	0°-21'-54	max. Earth dist.	128 Jun 30 j 17:13	6°♂06'08	6.29553 AU
minimum elong	122 Dec 31 j 16:32	9°♂25'34	0°21'56	morning rise	128 Jul 13 j 08:07	8°♂53'30	
max. Earth dist.	122 Dec 30 j 21:19	9°♂14'11	6.07860 AU	retrograde	128 Nov 13 j 05:31	26°♂31'49	
morning rise	123 Jan 13 j 12:55	12°♂28'05		opposition	129 Jan 12 j 02:09	21°♂33'00	0°51'56
	123 Apr 15 j 09:05	0°♂		min. Earth dist.	129 Jan 11 j 19:29	21°♂35'12	4.35203 AU
retrograde	123 May 23 j 07:14	2°♂12'11		direct	129 Mar 14 j 04:15	16°♂29'59	
	123 Jun 30 j 10:31	30°♂			129 Jun 28 j 15:20	0°♂	
opposition	123 Jul 22 j 19:52	27°♂14'27	-1°-1'-53	evening set	129 Jul 19 j 08:13	4°♂23'20	
min. Earth dist.	123 Jul 22 j 22:12	27°♂13'41	4.02419 AU				
direct	123 Sep 20 j 00:33	22°♂20'52		conjunction	129 Aug 01 j 16:25	7°♂17'15	0°51'03
	123 Nov 30 j 21:57	0°♂		minimum elong	129 Aug 01 j 16:22	7°♂17'13	0°51'02
evening set	124 Jan 23 j 00:10	11°♂43'59		max. Earth dist.	129 Aug 01 j 11:48	7°♂14'44	6.39692 AU
				morning rise	129 Aug 14 j 21:49	10°♂09'42	
conjunction	124 Feb 05 j 00:51	14°♂52'06	0°-56'-38		129 Sep 06 j 19:17	15°♂	
minimum elong	124 Feb 05 j 00:48	14°♂52'04	0°56'39	retrograde	129 Dec 13 j 16:28	27°♂09'28	
max. Earth dist.	124 Feb 05 j 11:58	14°♂58'48	5.98566 AU	opposition	130 Feb 11 j 20:45	22°♂14'18	1°30'17
	124 Feb 05 j 13:57	15°♂		min. Earth dist.	130 Feb 12 j 08:25	22°♂10'30	4.42675 AU
morning rise	124 Feb 18 j 04:25	18°♂01'51		direct	130 Apr 15 j 01:08	17°♂11'11	
	124 Apr 12 j 05:53	0°♂			130 Jul 28 j 02:07	0°♂	
retrograde	124 Jun 29 j 08:08	8°♂31'37		evening set	130 Aug 20 j 01:00	4°♂49'31	
opposition	124 Aug 28 j 09:18	3°♂29'52	-1°-40'-43	max. Earth dist.	130 Aug 31 j 19:13	7°♂22'14	6.43855 AU
min. Earth dist.	124 Aug 27 j 14:44	3°♂36'05	3.96743 AU				
	124 Sep 26 j 14:34	30°♂		conjunction	130 Sep 02 j 01:05	7°♂38'27	1°09'19
direct	124 Oct 25 j 13:13	28°♂36'09		minimum elong	130 Sep 02 j 01:04	7°♂38'26	1°09'18
	124 Nov 23 j 08:16	0°♂		morning rise	130 Sep 14 j 22:16	10°♂25'57	
evening set	125 Feb 27 j 19:59	18°♂13'28		retrograde	131 Jan 13 j 01:01	27°♂14'21	
				opposition	131 Mar 14 j 13:59	22°♂21'41	1°43'37
conjunction	125 Mar 13 j 04:35	21°♂25'50	-1°-10'-19	min. Earth dist.	131 Mar 15 j 16:41	22°♂13'06	4.43425 AU
minimum elong	125 Mar 13 j 04:35	21°♂25'50	1°10'20	direct	131 May 16 j 06:59	17°♂19'29	
max. Earth dist.	125 Mar 14 j 21:32	21°♂50'27	5.96961 AU		131 Aug 27 j 10:51	0°♂	
morning rise	125 Mar 26 j 16:13	24°♂39'48		evening set	131 Sep 19 j 20:59	4°♂58'13	
	125 Apr 18 j 13:15	0°♂		max. Earth dist.	131 Sep 30 j 18:55	7°♂21'30	6.41051 AU
retrograde	125 Aug 05 j 19:58	15°♂10'21					
min. Earth dist.	125 Oct 03 j 04:32	10°♂16'26	3.99527 AU	conjunction	131 Oct 02 j 15:04	7°♂45'45	1°08'35
opposition	125 Oct 04 j 12:07	10°♂05'42	-1°-39'-57	minimum elong	131 Oct 02 j 15:05	7°♂45'46	1°08'35
direct	125 Dec 01 j 09:34	5°♂09'53		morning rise	131 Oct 15 j 06:29	10°♂32'10	
evening set	126 Apr 06 j 06:53	24°♂36'12		retrograde	132 Feb 13 j 06:42	27°♂37'01	
				opposition	132 Apr 14 j 03:08	22°♂45'19	1°28'59
conjunction	126 Apr 19 j 22:28	27°♂48'40	0°-56'-39	min. Earth dist.	132 Apr 15 j 13:39	22°♂34'20	4.37273 AU
minimum elong	126 Apr 19 j 22:31	27°♂48'41	0°56'40	direct	132 Jun 15 j 16:38	17°♂45'07	
max. Earth dist.	126 Apr 22 j 03:30	28°♂19'51	6.03768 AU		132 Sep 23 j 12:45	0°♂	
	126 Apr 29 j 06:10	0°♂		evening set	132 Oct 19 j 16:24	5°♂39'13	
morning rise	126 May 03 j 16:30	1°♂02'07		max. Earth dist.	132 Oct 30 j 06:42	8°♂01'41	6.31989 AU
	126 Jul 09 j 17:07	15°♂					
retrograde	126 Sep 10 j 09:56	20°♂47'29		conjunction	132 Nov 01 j 07:30	8°♂29'08	0°48'42
opposition	126 Nov 08 j 23:17	15°♂42'31	-1°-1'-16	minimum elong	132 Nov 01 j 07:33	8°♂29'09	0°48'41
min. Earth dist.	126 Nov 07 j 14:05	15°♂53'51	4.09568 AU	morning rise	132 Nov 13 j 21:24	11°♂18'37	
	126 Nov 14 j 04:26	15°♂			132 Nov 30 j 15:05	15°♂	
direct	127 Jan 06 j 12:15	10°♂43'36		retrograde	133 Mar 17 j 07:30	29°♂05'49	
	127 Feb 28 j 07:23	15°♂		opposition	133 May 17 j 05:44	24°♂13'22	0°48'03
evening set	127 May 13 j 00:21	29°♂39'54		min. Earth dist.	133 May 18 j 14:56	24°♂02'47	4.25792 AU
	127 May 14 j 11:47	0°♂		direct	133 Jul 18 j 00:18	19°♂15'42	
					133 Oct 16 j 14:22	0°♂	
conjunction	127 May 26 j 18:56	2°♂48'07	0°-22'-35	evening set	133 Nov 20 j 08:57	7°♂37'56	
minimum elong	127 May 26 j 18:57	2°♂48'08	0°22'37	max. Earth dist.	133 Dec 01 j 10:57	10°♂11'27	6.19079 AU
max. Earth dist.	127 May 28 j 16:43	3°♂14'14	6.16179 AU				
morning rise	127 Jun 09 j 13:49	5°♂56'13		conjunction	133 Dec 03 j 00:54	10°♂33'25	0°13'34
retrograde	127 Oct 13 j 19:19	24°♂35'00		minimum elong	133 Dec 03 j 00:55	10°♂33'26	0°13'34
min. Earth dist.	127 Dec 11 j 10:52	19°♂39'57	4.22983 AU	behind sun begin	133 Dec 02 j 20:21	10°♂30'48	
opposition	127 Dec 12 j 09:10	19°♂32'25	0°-3'-31	behind sun end	133 Dec 03 j 05:28	10°♂36'03	
asc. node	128 Jan 04 j 21:06	16°♂35'08		morning rise	133 Dec 15 j 16:52	13°♂29'13	

	134 Mar 13 j 12:30	0°♄	direct	140 Feb 14 j 17:28	19°♄06'09	
desc. node	134 Apr 13 j 09:33	2°♄11'22		140 May 16 j 18:47	0°♄	
retrograde	134 Apr 21 j 10:55	2°♄17'31	evening set	140 Jun 20 j 18:21	7°♄23'12	
	134 May 30 j 19:02	30°♄♂				
opposition	134 Jun 21 j 06:51	27°♄22'48 0°-10'-41	conjunction	140 Jul 04 j 08:59	10°♄23'20 0°22'52	
min. Earth dist.	134 Jun 22 j 02:33	27°♄16'27 4.12316 AU	minimum elong	140 Jul 04 j 08:57	10°♄23'19 0°22'52	
direct	134 Aug 20 j 17:19	22°♄27'46	max. Earth dist.	140 Jul 05 j 03:12	10°♄33'23 6.31134 AU	
	134 Nov 01 j 05:12	0°♄	morning rise	140 Jul 17 j 21:55	13°♄22'22	
evening set	134 Dec 23 j 17:38	11°♄24'27		140 Oct 24 j 14:28	0°♄	
			retrograde	140 Nov 17 j 11:52	0°♄54'24	
conjunction	135 Jan 05 j 13:05	14°♄26'53 0°-27'-32		140 Dec 11 j 04:06	30°♄♂	
minimum elong	135 Jan 05 j 13:03	14°♄26'52 0°27'34	opposition	141 Jan 16 j 08:23	25°♄56'09 0°58'27	
max. Earth dist.	135 Jan 04 j 21:58	14°♄17'55 6.06256 AU	min. Earth dist.	141 Jan 16 j 05:16	25°♄57'11 4.36408 AU	
morning rise	135 Jan 18 j 10:21	17°♄30'29	direct	141 Mar 18 j 15:15	20°♄53'04	
	135 Mar 17 j 06:05	0°♄		141 Jun 10 j 23:39	0°♄	
retrograde	135 May 28 j 15:04	7°♄22'29	evening set	141 Jul 23 j 18:44	8°♄44'13	
opposition	135 Jul 28 j 02:02	2°♄24'09 -1°-9'-10				
min. Earth dist.	135 Jul 28 j 01:11	2°♄24'26 4.01300 AU	conjunction	141 Aug 06 j 01:54	11°♄37'24 0°54'33	
	135 Aug 16 j 05:05	30°♄♂	minimum elong	141 Aug 06 j 01:51	11°♄37'22 0°54'34	
direct	135 Sep 25 j 03:32	27°♄30'39	max. Earth dist.	141 Aug 05 j 17:10	11°♄32'39 6.40424 AU	
	135 Nov 03 j 08:41	0°♄	morning rise	141 Aug 19 j 06:11	14°♄29'06	
	136 Jan 19 j 22:52	15°♄		141 Aug 21 j 15:28	15°♄	
evening set	136 Jan 28 j 02:10	16°♄56'20		141 Nov 17 j 09:00	0°♄	
			retrograde	141 Dec 17 j 20:26	1°♄26'31	
conjunction	136 Feb 10 j 03:57	20°♄05'09 -1°00'-5		142 Jan 17 j 07:19	30°♄♄	
minimum elong	136 Feb 10 j 03:54	20°♄05'07 1°00'06	opposition	142 Feb 16 j 02:09	26°♄31'46 1°33'42	
max. Earth dist.	136 Feb 10 j 21:07	20°♄15'30 5.98043 AU	min. Earth dist.	142 Feb 16 j 15:46	26°♄27'20 4.42934 AU	
morning rise	136 Feb 23 j 08:30	23°♄15'34	direct	142 Apr 19 j 07:54	21°♄28'43	
	136 Mar 23 j 08:55	0°♄		142 Jul 10 j 05:43	0°♄	
retrograde	136 Jul 04 j 15:36	13°♄47'17	evening set	142 Aug 24 j 08:25	9°♄07'11	
opposition	136 Sep 02 j 15:21	8°♄45'00 -1°-43'-7	max. Earth dist.	142 Sep 05 j 00:09	11°♄38'44 6.43623 AU	
min. Earth dist.	136 Sep 01 j 18:24	8°♄52'02 3.96905 AU				
direct	136 Oct 30 j 17:10	3°♄51'06	conjunction	142 Sep 06 j 07:37	11°♄55'50 1°10'21	
evening set	137 Mar 05 j 01:05	23°♄27'02	minimum elong	142 Sep 06 j 07:36	11°♄55'50 1°10'20	
			morning rise	142 Sep 19 j 03:47	14°♄43'04	
conjunction	137 Mar 18 j 10:32	26°♄39'26 -1°-10'00		142 Dec 16 j 12:16	0°♄	
minimum elong	137 Mar 18 j 10:33	26°♄39'27 1°10'00	retrograde	143 Jan 17 j 08:11	1°♄32'59	
max. Earth dist.	137 Mar 20 j 05:09	27°♄04'59 5.97753 AU		143 Feb 18 j 05:43	30°♄♄	
morning rise	137 Mar 31 j 23:19	29°♄53'29	opposition	143 Mar 18 j 21:52	26°♄40'35 1°43'13	
	137 Apr 01 j 10:18	0°♄	min. Earth dist.	143 Mar 20 j 02:04	26°♄31'33 4.42737 AU	
retrograde	137 Aug 10 j 19:44	20°♄18'38	direct	143 May 20 j 15:18	21°♄38'43	
min. Earth dist.	137 Oct 08 j 03:28	15°♄25'00 4.00863 AU		143 Aug 09 j 10:38	0°♄	
opposition	137 Oct 09 j 12:36	15°♄13'43 -1°-36'-28	evening set	143 Sep 24 j 03:54	9°♄19'27	
direct	137 Dec 06 j 11:21	10°♄17'27	max. Earth dist.	143 Oct 04 j 22:48	11°♄41'35 6.39948 AU	
evening set	138 Apr 11 j 10:04	29°♄39'13				
	138 Apr 12 j 21:46	0°♄	conjunction	143 Oct 06 j 21:17	12°♄07'10 1°06'52	
			minimum elong	143 Oct 06 j 21:18	12°♄07'11 1°06'52	
conjunction	138 Apr 25 j 02:25	2°♄51'10 0°-52'-50	morning rise	143 Oct 19 j 12:26	14°♄53'54	
minimum elong	138 Apr 25 j 02:28	2°♄51'12 0°52'51		144 Jan 11 j 19:24	0°♄	
max. Earth dist.	138 Apr 27 j 07:35	3°♄22'18 6.05524 AU	retrograde	144 Feb 17 j 19:31	2°♄03'45	
morning rise	138 May 08 j 20:44	6°♄03'57		144 Mar 26 j 03:14	30°♄♄	
	138 Jun 18 j 07:39	15°♄	opposition	144 Apr 18 j 15:52	27°♄12'02 1°24'40	
retrograde	138 Sep 15 j 03:44	25°♄39'44	min. Earth dist.	144 Apr 20 j 02:42	27°♄00'56 4.35832 AU	
min. Earth dist.	138 Nov 12 j 09:06	20°♄45'34 4.11525 AU	direct	144 Jun 20 j 03:36	22°♄12'10	
opposition	138 Nov 13 j 16:17	20°♄34'56 0°-53'-53		144 Sep 04 j 22:51	0°♄	
direct	139 Jan 11 j 09:49	15°♄35'34	evening set	144 Oct 24 j 01:19	10°♄09'49	
	139 Apr 27 j 22:23	0°♄	max. Earth dist.	144 Nov 03 j 17:46	12°♄34'01 6.30337 AU	
evening set	139 May 17 j 22:10	4°♄26'20				
			conjunction	144 Nov 05 j 16:30	13°♄00'24 0°44'30	
conjunction	139 May 31 j 16:39	7°♄33'38 0°-17'-6	minimum elong	144 Nov 05 j 16:32	13°♄00'25 0°44'29	
minimum elong	139 May 31 j 16:41	7°♄33'39 0°17'06		144 Nov 14 j 12:24	15°♄	
max. Earth dist.	139 Jun 02 j 11:53	7°♄58'10 6.18172 AU	morning rise	144 Nov 18 j 06:20	15°♄50'35	
morning rise	139 Jun 14 j 11:13	10°♄40'42		145 Jan 30 j 10:16	0°♄	
retrograde	139 Oct 18 j 03:47	29°♄10'06	retrograde	145 Mar 22 j 01:34	3°♄45'15	
asc. node	139 Nov 15 j 19:36	27°♄50'06		145 May 13 j 03:15	30°♄♄	
opposition	139 Dec 16 j 19:20	24°♄08'00 0°04'38	opposition	145 May 22 j 00:31	28°♄52'36 0°40'31	
min. Earth dist.	139 Dec 15 j 22:26	24°♄15'03 4.24838 AU	min. Earth dist.	145 May 23 j 07:48	28°♄42'37 4.24035 AU	

direct	145 Jul 22 j 14:52	23° \mathbb{M} 55'23		evening set	151 May 22 j 20:15	9° \mathbb{H} 13'43	
	145 Sep 26 j 06:03	0° \mathbb{X}					
evening set	145 Nov 24 j 22:19	12° \mathbb{X} 21'50		conjunction	151 Jun 05 j 14:29	12° \mathbb{H} 20'12	0°-11'-29
max. Earth dist.	145 Dec 06 j 02:31	14° \mathbb{X} 57'16	6.17354 AU	minimum elong	151 Jun 05 j 14:29	12° \mathbb{H} 20'12	0°11'30
				behind sun begin	151 Jun 05 j 08:36	12° \mathbb{H} 16'53	
conjunction	145 Dec 07 j 14:25	15° \mathbb{X} 18'09	0°07'53	behind sun end	151 Jun 05 j 20:23	12° \mathbb{H} 23'32	
minimum elong	145 Dec 07 j 14:26	15° \mathbb{X} 18'09	0°07'53	max. Earth dist.	151 Jun 07 j 05:33	12° \mathbb{H} 42'18	6.19838 AU
behind sun begin	145 Dec 07 j 07:14	15° \mathbb{X} 14'00		morning rise	151 Jun 19 j 08:40	15° \mathbb{H} 26'20	
behind sun end	145 Dec 07 j 21:37	15° \mathbb{X} 22'19			151 Sep 02 j 12:15	0° \mathbb{G}	
morning rise	145 Dec 20 j 07:03	18° \mathbb{X} 14'56		asc. node	151 Sep 26 j 03:08	2° \mathbb{G} 40'15	
	146 Feb 13 j 17:54	0° \mathbb{Z}		retrograde	151 Oct 22 j 14:56	3° \mathbb{G} 47'43	
desc. node	146 Feb 21 j 04:38	1° \mathbb{Z} 17'48			151 Dec 12 j 00:13	30° \mathbb{R} \mathbb{H}	
retrograde	146 Apr 26 j 12:44	7° \mathbb{Z} 11'45		opposition	151 Dec 21 j 06:15	28° \mathbb{H} 46'05	0°12'47
opposition	146 Jun 26 j 07:45	2° \mathbb{Z} 16'35	0°-19'-24	min. Earth dist.	151 Dec 20 j 12:30	28° \mathbb{H} 52'03	4.26384 AU
min. Earth dist.	146 Jun 27 j 00:56	2° \mathbb{Z} 11'01	4.10739 AU	direct	152 Feb 19 j 09:47	23° \mathbb{H} 43'58	
	146 Jul 14 j 15:26	30° \mathbb{R} \mathbb{X}			152 Apr 26 j 11:21	0° \mathbb{G}	
direct	146 Aug 25 j 14:25	27° \mathbb{X} 21'48		evening set	152 Jun 25 j 10:59	11° \mathbb{G} 57'41	
	146 Oct 05 j 17:13	0° \mathbb{Z}					
evening set	146 Dec 28 j 12:34	16° \mathbb{Z} 22'21		conjunction	152 Jul 09 j 00:55	14° \mathbb{G} 56'56	0°28'01
				minimum elong	152 Jul 09 j 00:54	14° \mathbb{G} 56'55	0°28'00
conjunction	147 Jan 10 j 08:49	19° \mathbb{Z} 25'40	0°-32'-57	max. Earth dist.	152 Jul 09 j 16:26	15° \mathbb{G} 05'29	6.32449 AU
minimum elong	147 Jan 10 j 08:47	19° \mathbb{Z} 25'38	0°32'58	morning rise	152 Jul 22 j 12:44	17° \mathbb{G} 54'59	
max. Earth dist.	147 Jan 09 j 22:45	19° \mathbb{Z} 19'40	6.04966 AU		152 Sep 21 j 22:16	0° \mathbb{Q}	
morning rise	147 Jan 23 j 06:51	22° \mathbb{Z} 30'10		retrograde	152 Nov 21 j 17:35	5° \mathbb{Q} 21'34	
	147 Feb 25 j 02:29	0° \mathbb{W}		opposition	153 Jan 20 j 16:10	0° \mathbb{Q} 23'50	1°04'43
retrograde	147 Jun 02 j 21:28	12° \mathbb{W} 28'50		min. Earth dist.	153 Jan 20 j 14:29	0° \mathbb{Q} 24'23	4.37422 AU
opposition	147 Aug 02 j 06:20	7° \mathbb{W} 30'00	-1°-15'-50		153 Jan 23 j 16:25	30° \mathbb{R} \mathbb{G}	
min. Earth dist.	147 Aug 02 j 02:52	7° \mathbb{W} 31'08	4.00441 AU	direct	153 Mar 23 j 01:30	25° \mathbb{G} 20'43	
direct	147 Sep 30 j 03:35	2° \mathbb{W} 36'36			153 May 20 j 01:09	0° \mathbb{Q}	
	148 Jan 02 j 15:23	15° \mathbb{W}		evening set	153 Jul 28 j 06:44	13° \mathbb{Q} 10'02	
evening set	148 Feb 02 j 02:54	22° \mathbb{W} 04'20			153 Aug 05 j 17:45	15° \mathbb{Q}	
conjunction	148 Feb 15 j 05:28	25° \mathbb{W} 13'43	-1°-3'-1	conjunction	153 Aug 10 j 12:40	16° \mathbb{Q} 02'30	0°57'50
minimum elong	148 Feb 15 j 05:26	25° \mathbb{W} 13'41	1°03'03	minimum elong	153 Aug 10 j 12:38	16° \mathbb{Q} 02'28	0°57'50
max. Earth dist.	148 Feb 16 j 01:08	25° \mathbb{W} 25'34	5.97663 AU	max. Earth dist.	153 Aug 10 j 00:16	15° \mathbb{Q} 55'45	6.41070 AU
morning rise	148 Feb 28 j 11:15	28° \mathbb{W} 24'48		morning rise	153 Aug 23 j 15:49	18° \mathbb{Q} 53'28	
	148 Mar 06 j 03:05	0° \mathbb{H}			153 Oct 19 j 04:05	0° \mathbb{H}	
retrograde	148 Jul 09 j 18:50	18° \mathbb{H} 57'59		retrograde	153 Dec 22 j 03:43	5° \mathbb{H} 48'47	
opposition	148 Sep 07 j 18:41	13° \mathbb{H} 55'13	-1°-44'-42	opposition	154 Feb 20 j 09:47	0° \mathbb{H} 54'29	1°36'41
min. Earth dist.	148 Sep 06 j 19:00	14° \mathbb{H} 03'11	3.97072 AU	min. Earth dist.	154 Feb 21 j 02:05	0° \mathbb{H} 49'12	4.43204 AU
direct	148 Nov 04 j 18:29	9° \mathbb{H} 01'05			154 Feb 27 j 10:40	30° \mathbb{R} \mathbb{Q}	
evening set	149 Mar 10 j 04:27	28° \mathbb{H} 36'11		direct	154 Apr 23 j 19:09	25° \mathbb{Q} 51'35	
	149 Mar 16 j 01:07	0° \mathbb{Y}			154 Jun 17 j 16:08	0° \mathbb{H}	
				evening set	154 Aug 28 j 17:18	13° \mathbb{H} 29'42	
conjunction	149 Mar 23 j 15:05	1° \mathbb{Y} 48'48	-1°-9'-9	max. Earth dist.	154 Sep 09 j 05:42	15° \mathbb{H} 59'36	6.43506 AU
minimum elong	149 Mar 23 j 15:07	1° \mathbb{Y} 48'48	1°09'10				
max. Earth dist.	149 Mar 25 j 12:46	2° \mathbb{Y} 16'06	5.98444 AU	conjunction	154 Sep 10 j 15:33	16° \mathbb{H} 18'01	1°11'02
morning rise	149 Apr 06 j 04:41	5° \mathbb{Y} 02'54		minimum elong	154 Sep 10 j 15:33	16° \mathbb{H} 18'00	1°11'02
retrograde	149 Aug 15 j 20:43	25° \mathbb{Y} 23'22		morning rise	154 Sep 23 j 10:51	19° \mathbb{H} 04'56	
min. Earth dist.	149 Oct 13 j 02:59	20° \mathbb{Y} 29'24	4.01988 AU		154 Nov 17 j 18:57	0° \mathbb{L}	
opposition	149 Oct 14 j 11:28	20° \mathbb{Y} 18'20	-1°-32'-21	retrograde	155 Jan 21 j 15:44	5° \mathbb{L} 55'51	
direct	149 Dec 11 j 12:37	15° \mathbb{Y} 21'38		opposition	155 Mar 23 j 07:21	1° \mathbb{L} 03'36	1°42'17
	150 Mar 27 j 01:31	0° \mathbb{B}		min. Earth dist.	155 Mar 24 j 11:56	0° \mathbb{L} 54'27	4.42280 AU
evening set	150 Apr 16 j 12:13	4° \mathbb{B} 39'59			155 Mar 31 j 15:35	30° \mathbb{R} \mathbb{H}	
				direct	155 May 25 j 00:40	26° \mathbb{H} 01'58	
conjunction	150 Apr 30 j 05:11	7° \mathbb{B} 51'35	0°-48'-42		155 Jul 17 j 15:50	0° \mathbb{L}	
minimum elong	150 Apr 30 j 05:14	7° \mathbb{B} 51'36	0°48'42	evening set	155 Sep 28 j 11:35	13° \mathbb{L} 43'35	
max. Earth dist.	150 May 02 j 10:15	8° \mathbb{B} 22'31	6.06978 AU	max. Earth dist.	155 Oct 09 j 07:04	16° \mathbb{L} 06'18	6.39206 AU
morning rise	150 May 13 j 23:58	11° \mathbb{B} 03'52					
	150 May 31 j 06:52	15° \mathbb{B}		conjunction	155 Oct 11 j 04:28	16° \mathbb{L} 31'23	1°04'49
	150 Sep 01 j 23:32	0° \mathbb{H}		minimum elong	155 Oct 11 j 04:30	16° \mathbb{L} 31'24	1°04'49
retrograde	150 Sep 19 j 19:24	0° \mathbb{H} 31'21		morning rise	155 Oct 23 j 19:02	19° \mathbb{L} 18'12	
	150 Oct 07 j 12:21	30° \mathbb{R} \mathbb{B}			155 Dec 15 j 19:59	0° \mathbb{M}	
min. Earth dist.	150 Nov 17 j 01:43	25° \mathbb{B} 37'20	4.13150 AU	retrograde	156 Feb 22 j 07:20	6° \mathbb{M} 31'40	
opposition	150 Nov 18 j 08:36	25° \mathbb{B} 26'49	0°-46'-13	opposition	156 Apr 23 j 05:08	1° \mathbb{M} 39'55	1°19'53
direct	151 Jan 16 j 04:08	20° \mathbb{B} 27'04		min. Earth dist.	156 Apr 24 j 15:50	1° \mathbb{M} 28'53	4.34842 AU
	151 Apr 09 j 15:00	0° \mathbb{H}			156 May 06 j 13:18	30° \mathbb{R} \mathbb{L}	

direct	156 Jun 24 j 15:48	26°♌40'27		direct	161 Dec 16 j 07:50	20°♑16'56	
	156 Aug 11 j 22:22	0°♌			162 Mar 09 j 00:35	0°♌	
evening set	156 Oct 28 j 09:50	14°♌39'48		evening set	162 Apr 21 j 12:04	9°♌33'20	
	156 Oct 29 j 21:48	15°♌					
max. Earth dist.	156 Nov 08 j 01:57	17°♌04'17	6.29178 AU	conjunction	162 May 05 j 05:34	12°♌44'41	0°-44'-20
				minimum elong	162 May 05 j 05:37	12°♌44'42	0°44'21
conjunction	156 Nov 10 j 00:44	17°♌30'46	0°40'07	max. Earth dist.	162 May 07 j 08:30	13°♌14'18	6.08117 AU
minimum elong	156 Nov 10 j 00:46	17°♌30'47	0°40'07		162 May 14 j 22:42	15°♌	
morning rise	156 Nov 22 j 14:48	20°♌21'30		morning rise	162 May 19 j 00:47	15°♌56'37	
	157 Jan 07 j 07:12	0°♌			162 Jul 26 j 17:29	0°♌	
retrograde	157 Mar 26 j 18:50	8°♌22'01		retrograde	162 Sep 24 j 10:27	5°♌17'15	
opposition	157 May 26 j 18:25	3°♌29'02	0°32'53	opposition	162 Nov 22 j 22:57	0°♌13'00	0°-38'-28
min. Earth dist.	157 May 28 j 00:04	3°♌19'33	4.22760 AU	min. Earth dist.	162 Nov 21 j 18:00	0°♌22'52	4.14447 AU
	157 Jun 26 j 02:06	30°♌			162 Nov 24 j 13:08	30°♌	
direct	157 Jul 27 j 05:53	28°♌32'07		direct	163 Jan 20 j 22:31	25°♌12'54	
	157 Aug 27 j 04:47	0°♌			163 Mar 18 j 13:28	0°♌	
evening set	157 Nov 29 j 09:47	17°♌01'02		evening set	163 May 27 j 16:41	13°♌56'41	
max. Earth dist.	157 Dec 10 j 18:14	19°♌39'18	6.16088 AU				
				conjunction	163 Jun 10 j 10:54	17°♌02'32	0°-5'-56
conjunction	157 Dec 12 j 02:21	19°♌58'01	0°02'18	minimum elong	163 Jun 10 j 10:55	17°♌02'33	0°05'56
minimum elong	157 Dec 12 j 02:20	19°♌58'00	0°02'17	behind sun begin	163 Jun 10 j 02:58	16°♌58'05	
behind sun begin	157 Dec 11 j 18:20	19°♌53'22		behind sun end	163 Jun 10 j 18:51	17°♌07'00	
behind sun end	157 Dec 12 j 10:20	20°♌02'38		max. Earth dist.	163 Jun 12 j 00:56	17°♌23'58	6.21215 AU
morning rise	157 Dec 24 j 19:16	22°♌55'30		morning rise	163 Jun 24 j 04:29	20°♌07'51	
desc. node	158 Jan 02 j 16:10	24°♌58'01		asc. node	163 Aug 07 j 04:28	29°♌24'34	
	158 Jan 25 j 10:13	0°♌			163 Aug 10 j 07:18	0°♌	
retrograde	158 May 01 j 11:25	11°♌59'02		retrograde	163 Oct 27 j 00:11	8°♌22'16	
opposition	158 Jul 01 j 05:41	7°♌03'27	0°-27'-44	opposition	163 Dec 25 j 16:16	3°♌21'10	0°20'43
min. Earth dist.	158 Jul 01 j 20:58	6°♌58'30	4.09577 AU	min. Earth dist.	163 Dec 24 j 23:34	3°♌26'47	4.27726 AU
direct	158 Aug 30 j 08:27	2°♌08'56			164 Jan 22 j 04:11	30°♌	
evening set	159 Jan 02 j 04:57	21°♌12'04		direct	164 Feb 23 j 22:51	28°♌18'54	
					164 Mar 28 j 04:55	0°♌	
conjunction	159 Jan 15 j 01:40	24°♌16'02	0°-37'-56	evening set	164 Jun 30 j 02:51	16°♌29'49	
minimum elong	159 Jan 15 j 01:38	24°♌16'00	0°37'56				
max. Earth dist.	159 Jan 14 j 17:28	24°♌11'08	6.04001 AU	conjunction	164 Jul 13 j 15:42	19°♌28'10	0°32'54
morning rise	159 Jan 28 j 00:41	27°♌21'21		minimum elong	164 Jul 13 j 15:40	19°♌28'09	0°32'55
	159 Feb 08 j 06:25	0°♌		max. Earth dist.	164 Jul 14 j 02:45	19°♌34'14	6.33652 AU
	159 Apr 29 j 03:42	15°♌		morning rise	164 Jul 27 j 02:34	22°♌25'17	
retrograde	159 Jun 07 j 21:19	17°♌25'22			164 Sep 01 j 09:34	0°♌	
	159 Jul 17 j 19:38	15°♌		retrograde	164 Nov 26 j 00:54	9°♌46'50	
opposition	159 Aug 07 j 06:26	12°♌25'59	-1°-21'-43	opposition	165 Jan 24 j 23:39	4°♌49'35	1°10'32
min. Earth dist.	159 Aug 06 j 23:54	12°♌28'08	3.99777 AU	min. Earth dist.	165 Jan 25 j 00:52	4°♌49'11	4.38408 AU
direct	159 Oct 04 j 23:51	7°♌32'33			165 Mar 15 j 11:30	30°♌	
	159 Dec 14 j 11:57	15°♌		direct	165 Mar 27 j 13:57	29°♌46'24	
evening set	160 Feb 06 j 23:53	27°♌01'58			165 Apr 08 j 17:05	0°♌	
	160 Feb 19 j 07:48	0°♌			165 Jul 20 j 17:45	15°♌	
				evening set	165 Aug 01 j 17:40	17°♌33'41	
conjunction	160 Feb 20 j 03:35	0°♌11'56	-1°-5'-24				
minimum elong	160 Feb 20 j 03:33	0°♌11'55	1°05'25	conjunction	165 Aug 14 j 22:38	20°♌25'26	1°00'45
max. Earth dist.	160 Feb 21 j 03:25	0°♌26'19	5.97363 AU	minimum elong	165 Aug 14 j 22:36	20°♌25'25	1°00'45
morning rise	160 Mar 04 j 10:14	3°♌23'35		max. Earth dist.	165 Aug 14 j 08:30	20°♌17'45	6.41745 AU
retrograde	160 Jul 14 j 20:45	23°♌58'00		morning rise	165 Aug 28 j 00:28	23°♌15'38	
opposition	160 Sep 12 j 18:01	18°♌54'53	-1°-45'-29		165 Sep 29 j 10:53	0°♌	
min. Earth dist.	160 Sep 11 j 17:58	19°♌03'00	3.97179 AU	retrograde	165 Dec 26 j 07:40	10°♌08'41	
direct	160 Nov 09 j 17:40	14°♌00'29		opposition	166 Feb 24 j 16:26	5°♌14'41	1°39'05
	161 Feb 27 j 21:30	0°♌		min. Earth dist.	166 Feb 25 j 09:32	5°♌09'09	4.43531 AU
evening set	161 Mar 15 j 04:28	3°♌35'20		direct	166 Apr 28 j 03:02	0°♌11'54	
				evening set	166 Sep 02 j 00:44	17°♌49'18	
conjunction	161 Mar 28 j 16:06	6°♌48'11	-1°-7'-50	max. Earth dist.	166 Sep 13 j 10:02	20°♌17'40	6.43421 AU
minimum elong	161 Mar 28 j 16:08	6°♌48'12	1°07'51				
max. Earth dist.	161 Mar 30 j 15:09	7°♌16'15	5.98941 AU	conjunction	166 Sep 14 j 21:57	20°♌37'15	1°11'19
morning rise	161 Apr 11 j 06:46	10°♌02'30		minimum elong	166 Sep 14 j 21:57	20°♌37'15	1°11'20
	161 Aug 06 j 19:32	0°♌		morning rise	166 Sep 27 j 16:24	23°♌23'52	
retrograde	161 Aug 20 j 16:33	0°♌19'03			166 Oct 29 j 07:39	0°♌	
	161 Sep 03 j 11:21	30°♌		retrograde	167 Jan 25 j 23:38	10°♌15'52	
min. Earth dist.	161 Oct 17 j 21:22	25°♌25'21	4.02840 AU	opposition	167 Mar 27 j 16:01	5°♌23'47	1°40'46
opposition	161 Oct 19 j 06:41	25°♌14'00	-1°-27'-45	min. Earth dist.	167 Mar 28 j 22:37	5°♌14'00	4.41759 AU

direct	167 May 29 j 10:43	0°♂22'23		minimum elong	173 Apr 02 j 22:53	12°♀01'19	1°05'56
evening set	167 Oct 02 j 17:42	18°♂05'05		max. Earth dist.	173 Apr 04 j 23:20	12°♀30'10	5.99687 AU
max. Earth dist.	167 Oct 13 j 10:48	20°♂26'52	6.38256 AU	morning rise	173 Apr 16 j 14:28	15°♀15'40	
					173 Jun 26 j 03:10	0°♂	
conjunction	167 Oct 15 j 10:05	20°♂53'02	1°02'24	retrograde	173 Aug 25 j 16:28	5°♂26'42	
minimum elong	167 Oct 15 j 10:06	20°♂53'03	1°02'23	min. Earth dist.	173 Oct 22 j 20:56	0°♂32'56	4.04126 AU
morning rise	167 Oct 28 j 00:23	23°♂40'08		opposition	173 Oct 24 j 06:19	0°♂21'32	-1°-22'-17
	167 Nov 26 j 17:53	0°♂			173 Oct 26 j 21:25	30°♀	
retrograde	168 Feb 26 j 18:44	10°♂58'18		direct	173 Dec 21 j 10:02	25°♀24'03	
opposition	168 Apr 27 j 17:47	6°♂06'26	1°14'39		174 Feb 13 j 20:17	0°♂	
min. Earth dist.	168 Apr 29 j 03:59	5°♂55'34	4.33503 AU	evening set	174 Apr 26 j 15:42	14°♂36'22	
direct	168 Jun 29 j 01:49	1°♂07'15			174 Apr 28 j 08:43	15°♂	
	168 Oct 13 j 21:39	15°♂					
evening set	168 Nov 01 j 17:55	19°♂09'46		conjunction	174 May 10 j 09:48	17°♂47'10	0°-39'-30
max. Earth dist.	168 Nov 12 j 12:18	21°♂36'02	6.27560 AU	minimum elong	174 May 10 j 09:51	17°♂47'11	0°39'31
				max. Earth dist.	174 May 12 j 14:07	18°♂17'27	6.09869 AU
conjunction	168 Nov 14 j 08:56	22°♂01'23	0°35'27	morning rise	174 May 24 j 05:02	20°♂58'20	
minimum elong	168 Nov 14 j 08:58	22°♂01'24	0°35'28		174 Jul 04 j 15:38	0°♂	
morning rise	168 Nov 26 j 23:03	24°♂52'51		retrograde	174 Sep 29 j 02:50	10°♂09'12	
	168 Dec 20 j 03:09	0°♂		min. Earth dist.	174 Nov 26 j 11:10	5°♂14'56	4.16483 AU
retrograde	169 Mar 31 j 14:09	13°♂01'06		opposition	174 Nov 27 j 15:37	5°♂05'16	0°-30'-18
opposition	169 May 31 j 12:58	8°♂07'54	0°24'56	direct	175 Jan 25 j 19:09	0°♂04'50	
min. Earth dist.	169 Jun 01 j 18:01	7°♂58'36	4.20951 AU	evening set	175 Jun 01 j 14:36	18°♂42'45	
direct	169 Jul 31 j 20:54	3°♂11'19					
desc. node	169 Nov 13 j 03:44	17°♂01'28		conjunction	175 Jun 15 j 08:09	21°♂47'25	0°00'-13
evening set	169 Dec 03 j 22:51	21°♂44'53		minimum elong	175 Jun 15 j 08:09	21°♂47'24	0°00'15
max. Earth dist.	169 Dec 15 j 08:44	24°♂24'40	6.14237 AU	behind sun begin	175 Jun 14 j 23:51	21°♂42'47	
				behind sun end	175 Jun 15 j 16:26	21°♂52'02	
conjunction	169 Dec 16 j 15:42	24°♂42'47	0°-3'-32	max. Earth dist.	175 Jun 16 j 18:18	22°♂06'34	6.23369 AU
minimum elong	169 Dec 16 j 15:42	24°♂42'47	0°03'34	asc. node	175 Jun 17 j 14:26	22°♂17'52	
behind sun begin	169 Dec 16 j 07:45	24°♂38'09		morning rise	175 Jun 29 j 01:08	24°♂51'28	
behind sun end	169 Dec 16 j 23:39	24°♂47'24			175 Jul 22 j 16:50	0°♂	
morning rise	169 Dec 29 j 09:29	27°♂41'24		retrograde	175 Oct 31 j 08:43	12°♂56'08	
	170 Jan 08 j 09:33	0°♂		min. Earth dist.	175 Dec 29 j 11:53	8°♂00'16	4.29808 AU
retrograde	170 May 06 j 12:51	16°♂54'10		opposition	175 Dec 30 j 02:09	7°♂55'29	0°28'28
opposition	170 Jul 06 j 06:26	11°♂58'04	0°-36'-9	direct	176 Feb 28 j 14:30	2°♂52'56	
min. Earth dist.	170 Jul 06 j 18:26	11°♂54'10	4.07839 AU	evening set	176 Jul 04 j 17:03	20°♂58'23	
direct	170 Sep 04 j 03:23	7°♂03'45					
evening set	171 Jan 07 j 00:44	26°♂11'42		conjunction	176 Jul 18 j 05:00	23°♂55'31	0°37'32
				minimum elong	176 Jul 18 j 04:58	23°♂55'30	0°37'32
conjunction	171 Jan 19 j 22:26	29°♂16'42	0°-42'-50	max. Earth dist.	176 Jul 18 j 13:53	24°♂00'24	6.35505 AU
minimum elong	171 Jan 19 j 22:24	29°♂16'40	0°42'51	morning rise	176 Jul 31 j 14:26	26°♂51'19	
max. Earth dist.	171 Jan 19 j 19:30	29°♂14'57	6.02539 AU		176 Aug 15 j 05:46	0°♂	
	171 Jan 22 j 22:43	0°♂		retrograde	176 Nov 30 j 03:47	14°♂05'54	
morning rise	171 Feb 01 j 22:17	2°♂23'04		opposition	177 Jan 29 j 04:56	9°♂09'09	1°15'46
	171 Mar 31 j 21:24	15°♂		min. Earth dist.	177 Jan 29 j 07:54	9°♂08'10	4.39900 AU
retrograde	171 Jun 13 j 04:47	22°♂34'21		direct	177 Mar 31 j 22:40	4°♂05'56	
opposition	171 Aug 12 j 11:13	17°♂34'25	-1°-27'-17		177 Jul 04 j 02:29	15°♂	
min. Earth dist.	171 Aug 12 j 02:52	17°♂37'11	3.98755 AU	evening set	177 Aug 06 j 01:21	21°♂49'31	
	171 Sep 01 j 22:36	15°♂		max. Earth dist.	177 Aug 18 j 09:46	24°♂29'56	6.42739 AU
direct	171 Oct 10 j 01:39	12°♂41'00					
	171 Nov 16 j 15:17	15°♂		conjunction	177 Aug 19 j 04:57	24°♂40'21	1°03'14
	172 Feb 02 j 18:31	0°♂		minimum elong	177 Aug 19 j 04:55	24°♂40'20	1°03'13
evening set	172 Feb 12 j 02:26	2°♂13'21		morning rise	177 Sep 01 j 05:45	27°♂29'42	
					177 Sep 12 j 23:14	0°♂	
conjunction	172 Feb 25 j 07:10	5°♂24'02	-1°-7'-24	retrograde	177 Dec 30 j 11:07	14°♂19'56	
minimum elong	172 Feb 25 j 07:09	5°♂24'01	1°07'24	opposition	178 Feb 28 j 20:24	9°♂26'16	1°40'51
max. Earth dist.	172 Feb 26 j 10:24	5°♂40'27	5.96866 AU	min. Earth dist.	178 Mar 01 j 16:53	9°♂19'39	4.43968 AU
morning rise	172 Mar 09 j 15:09	8°♂36'27		direct	178 May 02 j 10:20	4°♂23'31	
retrograde	172 Jul 20 j 02:10	29°♂12'08		evening set	178 Sep 06 j 04:23	21°♂59'57	
opposition	172 Sep 17 j 22:08	24°♂08'38	-1°-45'-28	max. Earth dist.	178 Sep 17 j 10:33	24°♂26'43	6.43245 AU
min. Earth dist.	172 Sep 16 j 19:13	24°♂17'44	3.97308 AU				
direct	172 Nov 14 j 19:29	19°♂13'59		conjunction	178 Sep 19 j 00:54	24°♂47'38	1°11'13
	173 Feb 09 j 14:15	0°♂		minimum elong	178 Sep 19 j 00:54	24°♂47'38	1°11'12
evening set	173 Mar 20 j 10:11	8°♂48'18		morning rise	178 Oct 01 j 18:28	27°♂34'00	
					178 Oct 13 j 02:17	0°♂	
conjunction	173 Apr 02 j 22:51	12°♀01'18	-1°-5'-56	retrograde	179 Jan 30 j 03:13	14°♂27'42	

opposition	179 Mar 31 j 21:37	9°♄35'44	1°38'47		185 Jan 18 j 02:04	0°♃	
min. Earth dist.	179 Apr 02 j 05:00	9°♄25'43	4.40984 AU	evening set	185 Mar 25 j 18:07	14°♃06'03	
direct	179 Jun 02 j 14:54	4°♄34'32					
evening set	179 Oct 06 j 21:10	22°♄19'23		conjunction	185 Apr 08 j 07:54	17°♃19'00	-1°-3'-27
max. Earth dist.	179 Oct 17 j 13:01	24°♄40'57	6.36932 AU	minimum elong	185 Apr 08 j 07:56	17°♃19'01	1°03'27
				max. Earth dist.	185 Apr 10 j 12:09	17°♃50'00	6.00799 AU
conjunction	179 Oct 19 j 13:09	25°♄07'41	0°59'42	morning rise	185 Apr 22 j 00:13	20°♃33'10	
minimum elong	179 Oct 19 j 13:11	25°♄07'42	0°59'42		185 Jun 03 j 08:30	0°♂	
morning rise	179 Nov 01 j 03:14	27°♄55'15		retrograde	185 Aug 30 j 17:22	10°♂36'38	
	179 Nov 10 j 14:45	0°♄		min. Earth dist.	185 Oct 27 j 20:51	5°♂42'57	4.05788 AU
	180 Feb 16 j 18:08	15°♄		opposition	185 Oct 29 j 06:31	5°♂31'28	-1°-16'-6
retrograde	180 Mar 02 j 06:42	15°♄19'38		direct	185 Dec 26 j 12:40	0°♂33'34	
	180 Mar 16 j 18:31	15°♄			186 Apr 11 j 02:04	15°♂	
opposition	180 May 02 j 04:52	10°♄27'44	1°09'07	evening set	186 May 01 j 20:19	19°♂40'38	
min. Earth dist.	180 May 03 j 16:27	10°♄16'25	4.31681 AU				
direct	180 Jul 03 j 11:01	5°♄28'51		conjunction	186 May 15 j 14:29	22°♂50'36	0°-34'-21
	180 Sep 26 j 18:51	15°♄		minimum elong	186 May 15 j 14:32	22°♂50'37	0°34'21
evening set	180 Nov 06 j 00:47	23°♄36'20		max. Earth dist.	186 May 17 j 16:21	23°♂19'18	6.11890 AU
max. Earth dist.	180 Nov 16 j 18:47	26°♄03'08	6.25384 AU	morning rise	186 May 29 j 09:53	26°♂00'51	
					186 Jun 16 j 03:31	0°♂	
conjunction	180 Nov 18 j 15:56	26°♄28'54	0°30'40	retrograde	186 Oct 03 j 17:50	15°♂01'13	
minimum elong	180 Nov 18 j 15:58	26°♄28'55	0°30'40	min. Earth dist.	186 Dec 01 j 04:50	10°♂06'48	4.18635 AU
morning rise	180 Dec 01 j 06:33	29°♄21'27		opposition	186 Dec 02 j 07:53	9°♂57'37	0°-21'-52
	180 Dec 04 j 02:34	0°♄		direct	187 Jan 30 j 16:15	4°♂56'46	
retrograde	181 Apr 05 j 09:16	17°♄39'45		asc. node	187 Apr 27 j 01:52	14°♂54'58	
opposition	181 Jun 05 j 07:42	12°♄46'13	0°16'53	evening set	187 Jun 06 j 12:15	23°♂28'54	
min. Earth dist.	181 Jun 06 j 10:29	12°♄37'38	4.18566 AU				
direct	181 Aug 05 j 09:35	7°♄50'00		conjunction	187 Jun 20 j 05:22	26°♂32'26	0°05'32
desc. node	181 Sep 24 j 04:56	11°♄31'48		minimum elong	187 Jun 20 j 05:21	26°♂32'25	0°05'32
evening set	181 Dec 08 j 12:50	26°♄30'27		behind sun begin	187 Jun 19 j 21:21	26°♂27'59	
max. Earth dist.	181 Dec 20 j 03:34	29°♄13'51	6.11865 AU	behind sun end	187 Jun 20 j 13:20	26°♂36'52	
				max. Earth dist.	187 Jun 21 j 13:00	26°♂50'07	6.25484 AU
conjunction	181 Dec 21 j 06:23	29°♄29'38	0°-9'-13	morning rise	187 Jul 03 j 21:20	29°♂35'11	
minimum elong	181 Dec 21 j 06:22	29°♄29'37	0°09'14		187 Jul 05 j 18:13	0°♂	
behind sun begin	181 Dec 20 j 23:34	29°♄25'38		retrograde	187 Nov 04 j 18:24	17°♂30'48	
behind sun end	181 Dec 21 j 13:11	29°♄33'36		opposition	188 Jan 03 j 12:15	12°♂30'44	0°36'07
	181 Dec 23 j 09:59	0°♄		min. Earth dist.	188 Jan 03 j 00:26	12°♂34'41	4.31706 AU
morning rise	182 Jan 03 j 00:50	2°♄29'35		direct	188 Mar 04 j 05:16	7°♂28'03	
retrograde	182 May 11 j 18:46	21°♄53'40		evening set	188 Jul 09 j 07:46	25°♂28'59	
opposition	182 Jul 11 j 09:11	16°♄57'08	0°-44'-23				
min. Earth dist.	182 Jul 11 j 19:17	16°♄53'50	4.05687 AU	conjunction	188 Jul 22 j 18:28	28°♂25'01	0°42'01
direct	182 Sep 09 j 01:33	12°♄03'06		minimum elong	188 Jul 22 j 18:25	28°♂25'00	0°42'01
	183 Jan 06 j 13:12	0°♄		max. Earth dist.	188 Jul 22 j 21:59	28°♂26'57	6.37027 AU
evening set	183 Jan 11 j 23:40	1°♄17'33			188 Jul 30 j 00:19	0°♂	
				morning rise	188 Aug 05 j 02:49	1°♂19'43	
conjunction	183 Jan 24 j 22:15	4°♄23'44	0°-47'-27		188 Oct 17 j 03:12	15°♂	
minimum elong	183 Jan 24 j 22:13	4°♄23'43	0°47'29	retrograde	188 Dec 04 j 09:45	18°♂128'52	
max. Earth dist.	183 Jan 24 j 23:15	4°♄24'20	6.00808 AU		189 Jan 22 j 04:37	15°♄	
morning rise	183 Feb 06 j 23:22	7°♄31'25		opposition	189 Feb 02 j 11:39	13°♂32'36	1°20'45
	183 Mar 11 j 10:28	15°♄		min. Earth dist.	189 Feb 02 j 17:40	13°♂30'37	4.40977 AU
retrograde	183 Jun 18 j 13:30	27°♄50'33		direct	189 Apr 05 j 09:07	8°♂29'19	
opposition	183 Aug 17 j 18:35	22°♄50'06	-1°-32'-12		189 Jun 14 j 11:57	15°♂	
min. Earth dist.	183 Aug 17 j 05:55	22°♄54'18	3.97669 AU	evening set	189 Aug 10 j 10:42	26°♂10'45	
direct	183 Oct 15 j 04:05	17°♄56'41					
	184 Jan 15 j 19:32	0°♄		conjunction	189 Aug 23 j 13:21	29°♂00'56	1°05'28
evening set	184 Feb 17 j 08:25	7°♄32'09		minimum elong	189 Aug 23 j 13:19	29°♂00'55	1°05'29
				max. Earth dist.	189 Aug 22 j 15:54	28°♂49'17	6.43290 AU
conjunction	184 Mar 01 j 14:19	10°♄43'32	-1°-8'-50		189 Aug 28 j 02:13	0°♄	
minimum elong	184 Mar 01 j 14:18	10°♄43'31	1°08'51	morning rise	189 Sep 05 j 12:49	1°♄49'35	
max. Earth dist.	184 Mar 02 j 21:57	11°♄02'37	5.96508 AU	retrograde	190 Jan 03 j 15:45	18°♄38'29	
morning rise	184 Mar 14 j 23:29	13°♄56'38		opposition	190 Mar 05 j 02:52	13°♄45'09	1°42'13
	184 May 31 j 10:31	0°♃		min. Earth dist.	190 Mar 06 j 00:53	13°♄38'04	4.43984 AU
retrograde	184 Jul 25 j 09:38	4°♃32'33		direct	190 May 06 j 17:22	8°♄42'35	
	184 Sep 19 j 07:47	30°♄		evening set	190 Sep 10 j 11:13	26°♄19'21	
min. Earth dist.	184 Sep 21 j 23:49	29°♄38'20	3.97714 AU	max. Earth dist.	190 Sep 21 j 13:05	28°♄44'06	6.42709 AU
opposition	184 Sep 23 j 04:38	29°♄28'34	-1°-44'-32				
direct	184 Nov 20 j 02:03	24°♄33'33		conjunction	190 Sep 23 j 06:47	29°♄06'53	1°10'45

minimum elong	190 Sep 23 j 06:47	29° \mathbb{M} 06'53	1°10'44		196 May 07 j 11:26	0° Υ	
	190 Sep 27 j 07:59	0° \mathbb{A}		retrograde	196 Jul 30 j 13:55	9° Υ 45'05	
morning rise	190 Oct 05 j 23:47	1° \mathbb{A} 53'13		min. Earth dist.	196 Sep 27 j 01:33	4° Υ 51'01	3.98718 AU
retrograde	191 Feb 03 j 13:39	18° \mathbb{A} 49'49		opposition	196 Sep 28 j 07:45	4° Υ 40'47	-1°-42'-45
opposition	191 Apr 05 j 07:34	13° \mathbb{A} 57'58	1°36'13		196 Nov 13 j 09:14	30° \mathbb{R} \mathbb{H}	
min. Earth dist.	191 Apr 06 j 17:11	13° \mathbb{A} 47'15	4.39929 AU	direct	196 Nov 25 j 04:59	29° \mathbb{H} 45'26	
direct	191 Jun 07 j 00:55	8° \mathbb{A} 56'59			196 Dec 07 j 02:00	0° Υ	
evening set	191 Oct 11 j 04:21	26° \mathbb{A} 44'35		evening set	197 Mar 30 j 22:54	19° Υ 14'12	
max. Earth dist.	191 Oct 21 j 19:32	29° \mathbb{A} 06'16	6.35436 AU				
				conjunction	197 Apr 13 j 13:20	22° Υ 26'47	-1°00'-34
conjunction	191 Oct 23 j 20:09	29° \mathbb{A} 33'23	0°56'34	minimum elong	197 Apr 13 j 13:23	22° Υ 26'49	1°00'35
minimum elong	191 Oct 23 j 20:11	29° \mathbb{A} 33'24	0°56'34	max. Earth dist.	197 Apr 15 j 17:08	22° Υ 57'23	6.02320 AU
	191 Oct 25 j 19:54	0° \mathbb{M}		morning rise	197 Apr 27 j 06:30	25° Υ 40'33	
morning rise	191 Nov 05 j 10:04	2° \mathbb{M} 21'29			197 May 16 j 01:14	0° \mathbb{B}	
	192 Jan 08 j 14:07	15° \mathbb{M}			197 Aug 16 j 15:04	15° \mathbb{B}	
retrograde	192 Mar 06 j 21:22	19° \mathbb{M} 52'37		retrograde	197 Sep 04 j 12:11	15° \mathbb{B} 35'13	
opposition	192 May 06 j 20:30	15° \mathbb{M} 00'35	1°02'55		197 Sep 23 j 06:58	15° \mathbb{R} \mathbb{B}	
	192 May 06 j 22:18	15° \mathbb{R} \mathbb{M}		min. Earth dist.	197 Nov 01 j 16:37	10° \mathbb{B} 41'35	4.07645 AU
min. Earth dist.	192 May 08 j 06:46	14° \mathbb{M} 49'40	4.29844 AU	opposition	197 Nov 03 j 02:18	10° \mathbb{B} 30'05	-1°-9'-35
direct	192 Jul 07 j 22:09	10° \mathbb{M} 02'03		direct	197 Dec 31 j 11:35	5° \mathbb{B} 31'43	
	192 Sep 05 j 07:12	15° \mathbb{M}			198 Mar 23 j 16:11	15° \mathbb{B}	
evening set	192 Nov 10 j 12:03	28° \mathbb{M} 14'18		evening set	198 May 06 j 20:16	24° \mathbb{B} 33'13	
	192 Nov 18 j 05:12	0° \mathbb{A}					
max. Earth dist.	192 Nov 21 j 08:28	0° \mathbb{A} 43'09	6.23370 AU	conjunction	198 May 20 j 14:44	27° \mathbb{B} 42'21	0°-29'-8
				minimum elong	198 May 20 j 14:46	27° \mathbb{B} 42'23	0°29'09
conjunction	192 Nov 23 j 03:21	1° \mathbb{A} 07'46	0°25'29	max. Earth dist.	198 May 22 j 14:59	28° \mathbb{B} 10'01	6.13934 AU
minimum elong	192 Nov 23 j 03:22	1° \mathbb{A} 07'46	0°25'28		198 May 30 j 15:12	0° \mathbb{H}	
morning rise	192 Dec 05 j 18:18	4° \mathbb{A} 01'18		morning rise	198 Jun 03 j 09:51	0° \mathbb{H} 51'35	
retrograde	193 Apr 10 j 10:23	22° \mathbb{A} 28'57		retrograde	198 Oct 08 j 06:55	19° \mathbb{H} 42'02	
opposition	193 Jun 10 j 06:42	17° \mathbb{A} 35'08	0°08'21	opposition	198 Dec 06 j 20:24	14° \mathbb{H} 38'55	0°-13'-38
min. Earth dist.	193 Jun 11 j 08:27	17° \mathbb{A} 26'52	4.16521 AU	min. Earth dist.	198 Dec 05 j 19:54	14° \mathbb{H} 47'12	4.20642 AU
desc. node	193 Aug 03 j 15:53	12° \mathbb{A} 43'22		direct	199 Feb 04 j 09:42	9° \mathbb{H} 37'46	
direct	193 Aug 10 j 04:47	12° \mathbb{A} 39'16		asc. node	199 Mar 07 j 20:24	11° \mathbb{H} 10'58	
	193 Dec 07 j 04:23	0° \mathbb{B}		evening set	199 Jun 11 j 06:04	28° \mathbb{H} 04'52	
evening set	193 Dec 13 j 06:26	1° \mathbb{B} 25'08			199 Jun 19 j 21:29	0° \mathbb{B}	
max. Earth dist.	193 Dec 25 j 00:49	4° \mathbb{B} 11'22	6.09992 AU				
				conjunction	199 Jun 24 j 22:28	1° \mathbb{B} 07'21	0°11'00
conjunction	193 Dec 26 j 00:34	4° \mathbb{B} 25'23	0°-15'-3	minimum elong	199 Jun 24 j 22:28	1° \mathbb{B} 07'21	0°11'00
minimum elong	193 Dec 26 j 00:32	4° \mathbb{B} 25'22	0°15'03	behind sun begin	199 Jun 24 j 16:19	1° \mathbb{B} 03'56	
behind sun begin	193 Dec 25 j 21:23	4° \mathbb{B} 23'31		behind sun end	199 Jun 25 j 04:36	1° \mathbb{B} 10'45	
behind sun end	193 Dec 26 j 03:41	4° \mathbb{B} 27'13		max. Earth dist.	199 Jun 26 j 01:45	1° \mathbb{B} 22'32	6.27293 AU
morning rise	194 Jan 07 j 19:55	7° \mathbb{B} 26'31		morning rise	199 Jul 08 j 13:42	4° \mathbb{B} 08'59	
retrograde	194 May 16 j 23:52	26° \mathbb{B} 59'39		retrograde	199 Nov 09 j 00:11	21° \mathbb{B} 57'05	
opposition	194 Jul 16 j 14:16	22° \mathbb{B} 02'36	0°-52'-31	opposition	200 Jan 07 j 19:25	16° \mathbb{B} 57'34	0°43'19
min. Earth dist.	194 Jul 16 j 20:09	22° \mathbb{B} 00'40	4.04199 AU	min. Earth dist.	200 Jan 07 j 09:52	17° \mathbb{B} 00'46	4.33195 AU
direct	194 Sep 14 j 00:47	17° \mathbb{B} 08'49		direct	200 Mar 08 j 15:52	11° \mathbb{B} 54'44	
	194 Dec 20 j 05:04	0° \mathbb{B}		evening set	200 Jul 13 j 19:48	29° \mathbb{B} 52'44	
evening set	195 Jan 17 j 00:11	6° \mathbb{B} 27'03			200 Jul 14 j 09:13	0° \mathbb{B}	
conjunction	195 Jan 29 j 23:38	9° \mathbb{B} 34'03	0°-51'-48	conjunction	200 Jul 27 j 05:31	2° \mathbb{B} 47'55	0°46'10
minimum elong	195 Jan 29 j 23:35	9° \mathbb{B} 34'02	0°51'49	minimum elong	200 Jul 27 j 05:29	2° \mathbb{B} 47'53	0°46'09
max. Earth dist.	195 Jan 30 j 05:41	9° \mathbb{B} 37'42	5.99845 AU	max. Earth dist.	200 Jul 27 j 05:28	2° \mathbb{B} 47'53	6.38098 AU
morning rise	195 Feb 12 j 01:45	12° \mathbb{B} 42'36		morning rise	200 Aug 09 j 12:35	5° \mathbb{B} 41'41	
	195 Feb 21 j 17:30	15° \mathbb{B}			200 Sep 24 j 08:24	15° \mathbb{B}	
	195 May 09 j 19:34	0° \mathbb{H}		retrograde	200 Dec 08 j 14:43	22° \mathbb{B} 47'09	
retrograde	195 Jun 23 j 22:15	3° \mathbb{H} 06'15		opposition	201 Feb 06 j 17:03	17° \mathbb{B} 51'26	1°25'13
	195 Aug 08 j 07:58	30° \mathbb{R} \mathbb{B}		min. Earth dist.	201 Feb 07 j 01:45	17° \mathbb{B} 48'36	4.41580 AU
min. Earth dist.	195 Aug 22 j 10:17	28° \mathbb{B} 10'16	3.97354 AU		201 Mar 02 j 00:31	15° \mathbb{R} \mathbb{B}	
opposition	195 Aug 23 j 01:35	28° \mathbb{B} 05'10	-1°-36'-22	direct	201 Apr 09 j 17:16	12° \mathbb{B} 48'17	
direct	195 Oct 20 j 09:25	23° \mathbb{B} 11'37			201 May 18 j 18:59	15° \mathbb{B}	
	195 Dec 26 j 02:30	0° \mathbb{H}			201 Aug 12 j 12:48	0° \mathbb{M}	
evening set	196 Feb 22 j 13:21	12° \mathbb{H} 47'12		evening set	201 Aug 14 j 18:49	0° \mathbb{M} 29'02	
conjunction	196 Mar 06 j 20:25	15° \mathbb{H} 58'55	-1°-9'-44	conjunction	201 Aug 27 j 20:20	3° \mathbb{M} 18'45	1°07'19
minimum elong	196 Mar 06 j 20:25	15° \mathbb{H} 58'55	1°09'45	minimum elong	201 Aug 27 j 20:19	3° \mathbb{M} 18'44	1°07'19
max. Earth dist.	196 Mar 08 j 09:19	16° \mathbb{H} 21'08	5.96864 AU	max. Earth dist.	201 Aug 26 j 18:17	3° \mathbb{M} 04'37	6.43366 AU
morning rise	196 Mar 20 j 06:34	19° \mathbb{H} 12'17		morning rise	201 Sep 09 j 18:57	6° \mathbb{M} 07'01	

retrograde	202 Jan 07 j 22:38	22° \cap 56'20		direct	207 Oct 25 j 10:58	28° \approx 22'22	
opposition	202 Mar 09 j 09:49	18° \cap 03'20	1°43'01		207 Nov 25 j 15:21	0° H	
min. Earth dist.	202 Mar 10 j 10:07	17° \cap 55'31	4.43565 AU	evening set	208 Feb 27 j 16:35	17° H 57'49	
direct	202 May 11 j 01:06	13° \cap 00'57					
	202 Sep 11 j 17:23	0° Δ		conjunction	208 Mar 12 j 00:32	21° H 09'47	-1°-10'-6
evening set	202 Sep 14 j 17:56	0° Δ 39'18		minimum elong	208 Mar 12 j 00:32	21° H 09'47	1°10'06
max. Earth dist.	202 Sep 25 j 19:04	3° Δ 03'58	6.41831 AU	max. Earth dist.	208 Mar 13 j 14:55	21° H 32'50	5.97263 AU
				morning rise	208 Mar 25 j 11:54	24° H 23'26	
conjunction	202 Sep 27 j 12:59	3° Δ 26'56	1°09'53		208 Apr 18 j 14:05	0° Υ	
minimum elong	202 Sep 27 j 13:00	3° Δ 26'56	1°09'52	retrograde	208 Aug 04 j 14:18	14° Υ 53'07	
morning rise	202 Oct 10 j 05:13	6° Δ 13'21		min. Earth dist.	208 Oct 02 j 00:44	9° Υ 59'18	3.99613 AU
retrograde	203 Feb 07 j 23:18	23° Δ 14'00		opposition	208 Oct 03 j 08:28	9° Υ 48'30	-1°-40'-16
opposition	203 Apr 09 j 18:28	18° Δ 22'16	1°33'05	direct	208 Nov 30 j 06:11	4° Υ 52'45	
min. Earth dist.	203 Apr 11 j 03:55	18° Δ 11'36	4.38661 AU	evening set	209 Apr 05 j 01:52	24° Υ 18'32	
direct	203 Jun 11 j 09:29	13° Δ 21'42					
	203 Oct 10 j 01:10	0° M		conjunction	209 Apr 18 j 17:15	27° Υ 30'55	0°-57'-16
evening set	203 Oct 15 j 12:39	1° M 12'35		minimum elong	209 Apr 18 j 17:18	27° Υ 30'56	0°57'17
max. Earth dist.	203 Oct 26 j 03:15	3° M 34'33	6.33882 AU	max. Earth dist.	209 Apr 20 j 22:06	28° Υ 02'01	6.03636 AU
					209 Apr 29 j 07:03	0° B	
conjunction	203 Oct 28 j 04:04	4° M 01'52	0°53'04	morning rise	209 May 02 j 10:51	0° B 44'16	
minimum elong	203 Oct 28 j 04:06	4° M 01'54	0°53'04		209 Jul 10 j 05:21	15° B	
morning rise	203 Nov 09 j 18:02	6° M 50'37		retrograde	209 Sep 09 j 08:05	20° B 31'11	
	203 Dec 18 j 05:50	15° M		opposition	209 Nov 07 j 20:46	15° B 26'10	-1°-2'-41
retrograde	204 Mar 11 j 15:42	24° M 28'44		min. Earth dist.	209 Nov 06 j 12:43	15° B 37'07	4.09217 AU
opposition	204 May 11 j 13:41	19° M 36'34	0°56'15		209 Nov 11 j 01:35	15° R B	
min. Earth dist.	204 May 12 j 23:47	19° M 25'42	4.28087 AU	direct	210 Jan 05 j 09:51	10° B 27'21	
	204 Jun 27 j 05:27	15° R M			210 Feb 28 j 22:10	15° B	
direct	204 Jul 12 j 12:44	14° M 38'25		evening set	210 May 11 j 19:47	29° B 24'32	
	204 Jul 27 j 19:27	15° M			210 May 14 j 10:10	0° II	
	204 Nov 02 j 01:52	0° J					
evening set	204 Nov 14 j 23:53	2° J 54'54		conjunction	210 May 25 j 14:18	2° II 32'58	0°-23'-46
max. Earth dist.	204 Nov 25 j 22:59	5° J 25'53	6.21569 AU	minimum elong	210 May 25 j 14:20	2° II 32'59	0°23'47
				max. Earth dist.	210 May 27 j 12:20	2° II 59'14	6.15627 AU
conjunction	204 Nov 27 j 15:29	5° J 49'13	0°20'05	morning rise	210 Jun 08 j 09:19	5° II 41'21	
minimum elong	204 Nov 27 j 15:30	5° J 49'13	0°20'05	retrograde	210 Oct 12 j 17:42	24° II 23'08	
morning rise	204 Dec 10 j 06:50	8° J 43'41		min. Earth dist.	210 Dec 10 j 09:08	19° II 28'18	4.22300 AU
retrograde	205 Apr 15 j 09:04	27° J 19'52		opposition	210 Dec 11 j 08:30	19° II 20'24	0°-5'-21
desc. node	205 Jun 13 j 07:26	22° J 40'40		asc. node	211 Jan 16 j 05:01	15° II 14'22	
opposition	205 Jun 15 j 06:09	22° J 25'39	0°00'-17	direct	211 Feb 09 j 00:43	14° II 18'55	
min. Earth dist.	205 Jun 16 j 04:37	22° J 18'26	4.14807 AU		211 Jun 03 j 15:15	0° E	
direct	205 Aug 14 j 22:48	17° J 30'12		evening set	211 Jun 16 j 00:14	2° E 42'13	
	205 Nov 20 j 04:10	0° E					
evening set	205 Dec 18 j 00:02	6° E 20'11		conjunction	211 Jun 29 j 15:57	5° E 43'46	0°16'26
				minimum elong	211 Jun 29 j 15:56	5° E 43'46	0°16'26
conjunction	205 Dec 30 j 18:36	9° E 21'17	0°-20'-46	max. Earth dist.	211 Jun 30 j 15:01	5° E 56'34	6.28793 AU
minimum elong	205 Dec 30 j 18:35	9° E 21'16	0°20'48	morning rise	211 Jul 13 j 06:16	8° E 44'23	
max. Earth dist.	205 Dec 29 j 22:41	9° E 09'29	6.08504 AU	retrograde	211 Nov 13 j 08:48	26° E 26'00	
morning rise	206 Jan 12 j 14:43	12° E 23'23		opposition	212 Jan 12 j 03:50	21° E 27'02	0°50'21
	206 Apr 15 j 11:48	0° \approx		min. Earth dist.	212 Jan 11 j 21:30	21° E 29'08	4.34422 AU
retrograde	206 May 22 j 05:22	2° \approx 04'08		direct	212 Mar 13 j 05:05	16° E 24'04	
	206 Jun 28 j 02:20	30° R E			212 Jun 27 j 23:44	0° O	
opposition	206 Jul 21 j 18:16	27° E 06'31	-1°00'-12	evening set	212 Jul 18 j 08:48	4° O 19'39	
min. Earth dist.	206 Jul 21 j 21:35	27° E 05'25	4.03062 AU				
direct	206 Sep 19 j 01:54	22° E 12'50		conjunction	212 Jul 31 j 17:28	7° O 14'03	0°50'06
	206 Nov 30 j 16:35	0° \approx		minimum elong	212 Jul 31 j 17:25	7° O 14'02	0°50'06
evening set	207 Jan 21 j 23:34	11° \approx 33'47		max. Earth dist.	212 Jul 31 j 13:40	7° O 11'59	6.38950 AU
				morning rise	212 Aug 13 j 23:23	10° O 07'00	
conjunction	207 Feb 04 j 00:00	14° \approx 41'29	0°-55'-43		212 Sep 06 j 01:21	15° O	
minimum elong	207 Feb 03 j 23:58	14° \approx 41'28	0°55'44	retrograde	212 Dec 12 j 20:08	27° O 09'24	
max. Earth dist.	207 Feb 04 j 11:08	14° \approx 48'11	5.99158 AU	opposition	213 Feb 11 j 00:09	22° O 14'06	1°29'17
	207 Feb 05 j 06:45	15° \approx		min. Earth dist.	213 Feb 11 j 10:36	22° O 10'41	4.42048 AU
morning rise	207 Feb 17 j 03:04	17° \approx 50'46		direct	213 Apr 14 j 02:13	17° O 10'59	
	207 Apr 13 j 05:36	0° H			213 Jul 27 j 02:45	0° H	
retrograde	207 Jun 29 j 04:26	8° H 17'36		evening set	213 Aug 19 j 04:23	4° H 51'12	
opposition	207 Aug 28 j 06:08	3° H 16'01	-1°-39'-44	max. Earth dist.	213 Aug 31 j 01:30	7° H 25'34	6.43430 AU
min. Earth dist.	207 Aug 27 j 12:29	3° H 21'55	3.97222 AU				
	207 Sep 24 j 02:20	30° R \approx		conjunction	213 Sep 01 j 04:55	7° H 40'28	1°08'51

minimum elong	213 Sep 01 j 04:54	7° \mathbb{M} 40'28	1°08'50	retrograde	219 Jul 04 j 04:39	13° \mathbb{H} 18'37	
morning rise	213 Sep 14 j 02:23	10° \mathbb{M} 28'17		min. Earth dist.	219 Sep 01 j 10:22	8° \mathbb{H} 23'16	3.97167 AU
retrograde	214 Jan 12 j 06:09	27° \mathbb{M} 17'51		opposition	219 Sep 02 j 06:24	8° \mathbb{H} 16'33	-1°-42'-15
opposition	214 Mar 13 j 18:24	22° \mathbb{M} 25'10	1°43'19	direct	219 Oct 30 j 08:55	3° \mathbb{H} 22'42	
min. Earth dist.	214 Mar 14 j 20:04	22° \mathbb{M} 16'56	4.43253 AU	evening set	220 Mar 03 j 16:06	22° \mathbb{H} 58'13	
direct	214 May 15 j 10:52	17° \mathbb{M} 23'04					
	214 Aug 26 j 07:43	0° \mathbb{A}		conjunction	220 Mar 17 j 01:17	26° \mathbb{H} 10'32	-1°-9'-56
evening set	214 Sep 19 j 01:57	5° \mathbb{A} 02'15		minimum elong	220 Mar 17 j 01:18	26° \mathbb{H} 10'33	1°09'56
max. Earth dist.	214 Sep 30 j 00:04	7° \mathbb{A} 25'38	6.41173 AU	max. Earth dist.	220 Mar 18 j 18:53	26° \mathbb{H} 35'30	5.97623 AU
				morning rise	220 Mar 30 j 13:29	29° \mathbb{H} 24'27	
conjunction	214 Oct 01 j 20:10	7° \mathbb{A} 49'50	1°08'39		220 Apr 02 j 01:24	0° \mathbb{Y}	
minimum elong	214 Oct 01 j 20:11	7° \mathbb{A} 49'51	1°08'39	retrograde	220 Aug 09 j 13:46	19° \mathbb{Y} 51'23	
morning rise	214 Oct 14 j 12:00	10° \mathbb{A} 36'20		min. Earth dist.	220 Oct 06 j 22:06	14° \mathbb{Y} 57'16	4.00348 AU
retrograde	215 Feb 12 j 11:15	27° \mathbb{A} 40'14		opposition	220 Oct 08 j 05:15	14° \mathbb{Y} 46'40	-1°-37'-10
opposition	215 Apr 14 j 06:51	22° \mathbb{A} 48'30	1°29'26	direct	220 Dec 05 j 04:33	9° \mathbb{Y} 50'33	
min. Earth dist.	215 Apr 15 j 16:41	22° \mathbb{A} 37'43	4.37709 AU	evening set	221 Apr 10 j 01:55	29° \mathbb{Y} 14'29	
direct	215 Jun 15 j 21:00	17° \mathbb{A} 48'14			221 Apr 13 j 07:48	0° \mathbb{B}	
	215 Sep 23 j 12:47	0° \mathbb{M}					
evening set	215 Oct 19 j 20:55	5° \mathbb{M} 40'59		conjunction	221 Apr 23 j 18:03	2° \mathbb{B} 26'45	0°-53'-42
max. Earth dist.	215 Oct 30 j 13:25	8° \mathbb{M} 04'23	6.32728 AU	minimum elong	221 Apr 23 j 18:06	2° \mathbb{B} 26'47	0°53'42
				max. Earth dist.	221 Apr 25 j 22:41	2° \mathbb{B} 57'38	6.04683 AU
conjunction	215 Nov 01 j 12:15	8° \mathbb{M} 30'40	0°49'18	morning rise	221 May 07 j 12:22	5° \mathbb{B} 39'56	
minimum elong	215 Nov 01 j 12:17	8° \mathbb{M} 30'41	0°49'18		221 Jun 18 j 19:55	15° \mathbb{B}	
morning rise	215 Nov 14 j 01:58	11° \mathbb{M} 19'49		retrograde	221 Sep 13 j 23:38	25° \mathbb{B} 20'18	
	215 Nov 30 j 18:16	15° \mathbb{M}		min. Earth dist.	221 Nov 11 j 04:17	20° \mathbb{B} 26'28	4.10472 AU
retrograde	216 Mar 16 j 07:07	29° \mathbb{M} 03'32		opposition	221 Nov 12 j 12:21	20° \mathbb{B} 15'32	0°-55'-37
opposition	216 May 16 j 06:39	24° \mathbb{M} 11'09	0°49'19	direct	222 Jan 10 j 02:46	15° \mathbb{B} 16'22	
min. Earth dist.	216 May 17 j 14:59	24° \mathbb{M} 00'51	4.26800 AU		222 Apr 27 j 23:25	0° \mathbb{I}	
direct	216 Jul 17 j 02:13	19° \mathbb{M} 13'28		evening set	222 May 16 j 17:09	4° \mathbb{I} 10'43	
	216 Oct 16 j 00:45	0° \mathbb{J}					
evening set	216 Nov 19 j 11:04	7° \mathbb{J} 32'28		conjunction	222 May 30 j 11:41	7° \mathbb{I} 18'34	0°-18'-23
max. Earth dist.	216 Nov 30 j 11:52	10° \mathbb{J} 04'56	6.20255 AU	minimum elong	222 May 30 j 11:42	7° \mathbb{I} 18'35	0°18'24
				max. Earth dist.	222 Jun 01 j 06:27	7° \mathbb{I} 42'55	6.17007 AU
conjunction	216 Dec 02 j 02:40	10° \mathbb{J} 27'21	0°14'41	morning rise	222 Jun 13 j 06:31	10° \mathbb{I} 26'16	
minimum elong	216 Dec 02 j 02:40	10° \mathbb{J} 27'22	0°14'42	retrograde	222 Oct 17 j 05:34	29° \mathbb{I} 00'55	
behind sun begin	216 Dec 01 j 23:08	10° \mathbb{J} 25'19		asc. node	222 Nov 27 j 11:13	26° \mathbb{I} 21'08	
behind sun end	216 Dec 02 j 06:13	10° \mathbb{J} 29'24		opposition	222 Dec 15 j 19:35	23° \mathbb{I} 58'39	0°02'44
morning rise	216 Dec 14 j 18:28	13° \mathbb{J} 22'33		min. Earth dist.	222 Dec 14 j 22:55	24° \mathbb{I} 05'37	4.23667 AU
	217 Mar 14 j 02:48	0° \mathbb{Z}		direct	223 Feb 13 j 16:36	18° \mathbb{I} 56'55	
retrograde	217 Apr 20 j 07:07	2° \mathbb{Z} 05'37			223 May 17 j 07:38	0° \mathbb{E}	
desc. node	217 Apr 24 j 12:07	2° \mathbb{Z} 03'56		evening set	223 Jun 20 j 17:11	7° \mathbb{E} 17'22	
	217 May 27 j 18:39	30° \mathbb{R} \mathbb{J}					
opposition	217 Jun 20 j 03:46	27° \mathbb{J} 10'59	0°-8'-43	conjunction	223 Jul 04 j 08:20	10° \mathbb{E} 18'07	0°21'40
min. Earth dist.	217 Jun 21 j 00:22	27° \mathbb{J} 04'21	4.13545 AU	minimum elong	223 Jul 04 j 08:18	10° \mathbb{E} 18'06	0°21'40
direct	217 Aug 19 j 17:23	22° \mathbb{J} 15'47		max. Earth dist.	223 Jul 05 j 05:17	10° \mathbb{E} 29'43	6.30059 AU
	217 Nov 01 j 08:49	0° \mathbb{Z}		morning rise	223 Jul 17 j 21:38	13° \mathbb{E} 17'48	
evening set	217 Dec 22 j 15:21	11° \mathbb{Z} 08'29			223 Oct 24 j 22:33	0° \mathbb{O}	
				retrograde	223 Nov 17 j 14:30	0° \mathbb{O} 53'46	
conjunction	218 Jan 04 j 10:36	14° \mathbb{Z} 10'18	0°-26'-11		223 Dec 11 j 04:26	30° \mathbb{R} \mathbb{E}	
minimum elong	218 Jan 04 j 10:34	14° \mathbb{Z} 10'17	0°26'12	opposition	224 Jan 16 j 11:31	25° \mathbb{E} 55'17	0°56'57
max. Earth dist.	218 Jan 03 j 18:48	14° \mathbb{Z} 00'56	6.07415 AU	min. Earth dist.	224 Jan 16 j 06:16	25° \mathbb{E} 57'02	4.35510 AU
morning rise	218 Jan 17 j 07:21	17° \mathbb{Z} 13'11		direct	224 Mar 17 j 15:17	20° \mathbb{E} 52'15	
	218 Mar 17 j 21:48	0° \mathbb{W}			224 Jun 10 j 00:25	0° \mathbb{O}	
retrograde	218 May 27 j 07:18	6° \mathbb{W} 59'57		evening set	224 Jul 22 j 21:10	8° \mathbb{O} 45'43	
opposition	218 Jul 26 j 18:51	2° \mathbb{W} 01'53	-1°-7'-12				
min. Earth dist.	218 Jul 26 j 19:45	2° \mathbb{W} 01'36	4.02263 AU	conjunction	224 Aug 05 j 04:39	11° \mathbb{O} 39'19	0°53'42
	218 Aug 11 j 17:59	30° \mathbb{R} \mathbb{Z}		minimum elong	224 Aug 05 j 04:36	11° \mathbb{O} 39'17	0°53'43
direct	218 Sep 23 j 22:15	27° \mathbb{Z} 08'21		max. Earth dist.	224 Aug 04 j 21:23	11° \mathbb{O} 35'21	6.39779 AU
	218 Nov 05 j 04:25	0° \mathbb{W}		morning rise	224 Aug 18 j 09:25	14° \mathbb{O} 31'27	
	219 Jan 20 j 10:50	15° \mathbb{W}			224 Aug 20 j 14:19	15° \mathbb{O}	
evening set	219 Jan 26 j 19:48	16° \mathbb{W} 31'05			224 Nov 15 j 20:22	0° \mathbb{M}	
				retrograde	224 Dec 17 j 02:31	1° \mathbb{M} 30'46	
conjunction	219 Feb 08 j 20:55	19° \mathbb{W} 39'21	0°-59'-5		225 Jan 17 j 06:43	30° \mathbb{R} \mathbb{O}	
minimum elong	219 Feb 08 j 20:53	19° \mathbb{W} 39'19	0°59'06	opposition	225 Feb 15 j 06:57	26° \mathbb{O} 35'52	1°32'48
max. Earth dist.	219 Feb 09 j 10:03	19° \mathbb{W} 47'15	5.98697 AU	min. Earth dist.	225 Feb 15 j 20:02	26° \mathbb{O} 31'37	4.42563 AU
morning rise	219 Feb 22 j 01:07	22° \mathbb{W} 49'17		direct	225 Apr 18 j 13:00	21° \mathbb{O} 32'49	
	219 Mar 25 j 01:51	0° \mathbb{H}			225 Jul 08 j 23:38	0° \mathbb{M}	

evening set	225 Aug 23 j 12:36	9° Υ 11'53		231 Jan 03 j 06:53	15° \approx	
max. Earth dist.	225 Sep 04 j 05:59	11° Υ 44'18	6.43554 AU	evening set	231 Jan 31 j 20:16	21° \approx 38'36
conjunction	225 Sep 05 j 12:10	12° Υ 00'42	1°09'58	conjunction	231 Feb 13 j 22:37	24° \approx 47'44 -1°-2'-8
minimum elong	225 Sep 05 j 12:09	12° Υ 00'41	1°09'57	minimum elong	231 Feb 13 j 22:35	24° \approx 47'43 1°02'10
morning rise	225 Sep 18 j 08:42	14° Υ 48'05		max. Earth dist.	231 Feb 14 j 17:07	24° \approx 58'53 5.97866 AU
	225 Dec 14 j 21:00	0° $\underline{\Delta}$		morning rise	231 Feb 27 j 03:47	27° \approx 58'30
retrograde	226 Jan 16 j 12:01	1° $\underline{\Delta}$ 37'45			231 Mar 07 j 16:11	0° X
	226 Feb 18 j 06:10	30° R Υ		retrograde	231 Jul 09 j 12:12	18° X 31'16
opposition	226 Mar 18 j 02:17	26° Υ 45'10	1°43'01	opposition	231 Sep 07 j 11:07	13° X 28'44 -1°-44'-5
min. Earth dist.	226 Mar 19 j 04:49	26° Υ 36'39	4.42973 AU	min. Earth dist.	231 Sep 06 j 13:44	13° X 35'56 3.96910 AU
direct	226 May 19 j 19:07	21° Υ 43'12		direct	231 Nov 04 j 12:19	8° X 34'42
	226 Aug 08 j 06:00	0° $\underline{\Delta}$		evening set	232 Mar 08 j 21:08	28° X 10'51
evening set	226 Sep 23 j 08:16	9° $\underline{\Delta}$ 22'52			232 Mar 16 j 11:52	0° Υ
max. Earth dist.	226 Oct 04 j 05:53	11° $\underline{\Delta}$ 46'15	6.40483 AU			
conjunction	226 Oct 06 j 01:55	12° $\underline{\Delta}$ 10'28	1°07'02	conjunction	232 Mar 22 j 07:23	1° Υ 23'33 -1°-9'-12
minimum elong	226 Oct 06 j 01:56	12° $\underline{\Delta}$ 10'29	1°07'02	minimum elong	232 Mar 22 j 07:24	1° Υ 23'33 1°09'14
morning rise	226 Oct 18 j 17:04	14° $\underline{\Delta}$ 57'01		max. Earth dist.	232 Mar 24 j 03:25	1° Υ 49'54 5.97952 AU
	227 Jan 10 j 18:35	0° M		morning rise	232 Apr 04 j 20:49	4° Υ 37'48
retrograde	227 Feb 16 j 21:03	2° M 04'21		retrograde	232 Aug 14 j 15:24	25° Υ 01'17
	227 Mar 26 j 07:49	30° R $\underline{\Delta}$		min. Earth dist.	232 Oct 11 j 21:27	20° Υ 07'40 4.01261 AU
opposition	227 Apr 18 j 18:01	27° $\underline{\Delta}$ 12'37	1°25'17	opposition	232 Oct 13 j 06:31	19° Υ 56'24 -1°-33'-12
min. Earth dist.	227 Apr 20 j 04:27	27° $\underline{\Delta}$ 01'40	4.36620 AU	direct	232 Dec 10 j 05:32	14° Υ 59'56
direct	227 Jun 20 j 07:15	22° $\underline{\Delta}$ 12'40			233 Mar 27 j 07:07	0° B
	227 Sep 05 j 03:08	0° M		evening set	233 Apr 15 j 06:49	4° B 21'03
evening set	227 Oct 24 j 04:15	10° M 07'46		conjunction	233 Apr 28 j 23:35	7° B 32'58 0°-49'-35
max. Earth dist.	227 Nov 03 j 19:20	12° M 30'56	6.31305 AU	minimum elong	233 Apr 28 j 23:38	7° B 33'00 0°49'35
conjunction	227 Nov 05 j 19:16	12° M 57'56	0°45'15	max. Earth dist.	233 May 01 j 03:54	8° B 03'33 6.06114 AU
minimum elong	227 Nov 05 j 19:18	12° M 57'57	0°45'15	morning rise	233 May 12 j 18:22	10° B 45'40
	227 Nov 14 j 20:08	15° M			233 May 31 j 08:49	15° B
morning rise	227 Nov 18 j 09:12	15° M 47'43			233 Sep 05 j 12:19	0° II
	228 Jan 31 j 04:04	0° X		retrograde	233 Sep 18 j 18:52	0° II 17'32
retrograde	228 Mar 20 j 23:47	3° X 38'12			233 Oct 01 j 23:08	30° R B
	228 May 11 j 03:04	30° R M		min. Earth dist.	233 Nov 16 j 00:36	25° B 23'26 4.12271 AU
opposition	228 May 20 j 23:17	28° M 45'32	0°42'02	opposition	233 Nov 17 j 07:23	25° B 12'57 0°-47'-55
min. Earth dist.	228 May 22 j 06:46	28° M 35'29	4.25107 AU	direct	234 Jan 15 j 02:15	20° B 13'23
direct	228 Jul 21 j 15:53	23° M 48'06			234 Apr 09 j 13:16	0° II
	228 Sep 26 j 02:05	0° X		evening set	234 May 21 j 17:23	9° II 02'32
evening set	228 Nov 23 j 22:04	12° X 11'13		conjunction	234 Jun 04 j 11:52	12° II 09'27 0°-12'-45
max. Earth dist.	228 Dec 05 j 02:33	14° X 46'21	6.18445 AU	minimum elong	234 Jun 04 j 11:53	12° II 09'27 0°12'46
conjunction	228 Dec 06 j 14:10	15° X 07'00	0°09'09	behind sun begin	234 Jun 04 j 06:49	12° II 06'36
minimum elong	228 Dec 06 j 14:11	15° X 07'01	0°09'09	behind sun end	234 Jun 04 j 16:57	12° II 12'19
behind sun begin	228 Dec 06 j 07:22	15° X 03'05		max. Earth dist.	234 Jun 06 j 06:16	12° II 33'28 6.19055 AU
behind sun end	228 Dec 06 j 20:59	15° X 10'56		morning rise	234 Jun 18 j 06:06	15° II 5'59
morning rise	228 Dec 19 j 06:22	18° X 03'11			234 Sep 02 j 10:19	0° B
	229 Feb 13 j 23:45	0° B		asc. node	234 Oct 07 j 18:11	3° B 21'39
desc. node	229 Mar 05 j 00:32	3° B 03'14		retrograde	234 Oct 21 j 15:50	3° B 40'40
retrograde	229 Apr 25 j 07:03	6° B 55'05			234 Dec 10 j 03:37	30° R II
opposition	229 Jun 25 j 02:40	2° B 00'03	0°-17'-17	min. Earth dist.	234 Dec 19 j 11:44	28° II 45'33 4.25781 AU
min. Earth dist.	229 Jun 25 j 21:17	1° B 54'03	4.11753 AU	opposition	234 Dec 20 j 07:33	28° II 38'53 0°10'55
	229 Jul 11 j 01:37	30° R X		direct	235 Feb 18 j 08:34	23° II 36'55
direct	229 Aug 24 j 11:29	27° X 05'09			235 Apr 27 j 02:30	0° B
	229 Oct 06 j 21:14	0° B		evening set	235 Jun 25 j 10:20	11° B 51'45
evening set	229 Dec 27 j 08:58	16° B 02'37		conjunction	235 Jul 09 j 00:21	14° B 51'14 0°26'46
conjunction	230 Jan 09 j 04:44	19° B 05'23	0°-31'-33	minimum elong	235 Jul 09 j 00:19	14° B 51'13 0°26'46
minimum elong	230 Jan 09 j 04:42	19° B 05'22	0°31'34	max. Earth dist.	235 Jul 09 j 16:38	15° B 00'12 6.32065 AU
max. Earth dist.	230 Jan 08 j 15:10	18° B 57'19	6.05790 AU	morning rise	235 Jul 22 j 12:39	17° B 49'36
morning rise	230 Jan 22 j 02:32	22° B 09'24			235 Sep 22 j 10:28	0° B
	230 Feb 25 j 14:16	0° \approx		retrograde	235 Nov 21 j 20:36	5° B 17'37
retrograde	230 Jun 01 j 11:40	12° \approx 04'20		opposition	236 Jan 20 j 18:25	0° B 19'39 1°03'07
opposition	230 Jul 31 j 22:25	7° \approx 05'39	-1°-13'-58	min. Earth dist.	236 Jan 20 j 16:26	0° B 20'18 4.37260 AU
min. Earth dist.	230 Jul 31 j 19:54	7° \approx 06'29	4.00972 AU		236 Jan 23 j 05:52	30° R B
direct	230 Sep 28 j 21:09	2° \approx 12'08		direct	236 Mar 22 j 04:05	25° B 16'30
					236 May 19 j 13:14	0° B

evening set	236 Jul 27 j 06:53	13°♏05'33		direct	241 Aug 29 j 04:45	1°♑56'40	
	236 Aug 05 j 02:18	15°♏		evening set	242 Jan 01 j 04:19	21°♑01'14	
conjunction	236 Aug 09 j 13:18	15°♏58'08	0°56'55	conjunction	242 Jan 14 j 01:07	24°♑05'19	0°-36'-42
minimum elong	236 Aug 09 j 13:16	15°♏58'07	0°56'55	minimum elong	242 Jan 14 j 01:05	24°♑05'18	0°36'42
max. Earth dist.	236 Aug 09 j 03:30	15°♏52'48	6.41121 AU	max. Earth dist.	242 Jan 13 j 17:03	24°♑00'30	6.03726 AU
morning rise	236 Aug 22 j 16:40	18°♏49'12		morning rise	242 Jan 26 j 23:49	27°♑10'40	
	236 Oct 18 j 16:08	0°♐			242 Feb 07 j 23:47	0°≈	
retrograde	236 Dec 21 j 03:30	5°♐44'13			242 Apr 29 j 13:17	15°≈	
opposition	237 Feb 19 j 10:59	0°♐49'41	1°35'41	retrograde	242 Jun 06 j 20:49	17°≈15'24	
min. Earth dist.	237 Feb 20 j 01:32	0°♐44'58	4.43427 AU		242 Jul 15 j 06:05	15°≈	
	237 Feb 25 j 20:52	30°♐♏		opposition	242 Aug 06 j 04:25	12°≈16'12	-1°-20'-14
direct	237 Apr 22 j 19:02	25°♏46'43		min. Earth dist.	242 Aug 05 j 23:33	12°≈17'49	3.99397 AU
	237 Jun 17 j 07:04	0°♐		direct	242 Oct 03 j 22:56	7°≈22'48	
evening set	237 Aug 27 j 17:30	13°♐23'45			242 Dec 14 j 06:33	15°≈	
max. Earth dist.	237 Sep 08 j 06:33	15°♐53'52	6.43854 AU	evening set	243 Feb 05 j 23:56	26°≈54'01	
					243 Feb 18 j 20:33	0°♑	
conjunction	237 Sep 09 j 15:57	16°♐12'01	1°10'39	conjunction	243 Feb 19 j 03:20	0°♑04'06	-1°-4'-42
minimum elong	237 Sep 09 j 15:56	16°♐12'01	1°10'39	minimum elong	243 Feb 19 j 03:18	0°♑04'04	1°04'43
morning rise	237 Sep 22 j 11:32	18°♐58'55		max. Earth dist.	243 Feb 20 j 01:57	0°♑17'44	5.96917 AU
	237 Nov 17 j 12:00	0°♑		morning rise	243 Mar 04 j 09:56	3°♑15'54	
retrograde	238 Jan 20 j 15:59	5°♑48'32		retrograde	243 Jul 14 j 20:34	23°♑51'55	
opposition	238 Mar 22 j 06:56	0°♑56'13	1°42'09	opposition	243 Sep 12 j 18:16	18°♑48'54	-1°-45'-2
min. Earth dist.	238 Mar 23 j 12:18	0°♑46'49	4.42682 AU	min. Earth dist.	243 Sep 11 j 17:08	18°♑57'22	3.96726 AU
	238 Mar 29 j 15:32	30°♐♐		direct	243 Nov 09 j 16:43	13°♑54'38	
direct	238 May 24 j 01:35	25°♐54'27			244 Feb 28 j 06:16	0°♑	
	238 Jul 17 j 13:38	0°♑		evening set	244 Mar 14 j 05:12	3°♑30'56	
evening set	238 Sep 27 j 11:14	13°♑34'58					
max. Earth dist.	238 Oct 08 j 05:16	15°♑56'45	6.39597 AU	conjunction	244 Mar 27 j 16:34	6°♑43'52	-1°-7'-52
				minimum elong	244 Mar 27 j 16:35	6°♑43'53	1°07'53
conjunction	238 Oct 10 j 04:21	16°♑22'42	1°05'06	max. Earth dist.	244 Mar 29 j 15:25	7°♑11'52	5.98527 AU
minimum elong	238 Oct 10 j 04:23	16°♑22'43	1°05'06	morning rise	244 Apr 10 j 07:00	9°♑58'16	
morning rise	238 Oct 22 j 19:12	19°♑09'29			244 Aug 06 j 19:45	0°♑	
	238 Dec 15 j 18:16	0°♐		retrograde	244 Aug 19 j 18:28	0°♑16'42	
retrograde	239 Feb 21 j 04:54	6°♐21'23			244 Sep 01 j 15:34	30°♐♑	
opposition	239 Apr 23 j 02:40	1°♐29'36	1°20'47	min. Earth dist.	244 Oct 16 j 23:46	25°♑22'58	4.02493 AU
min. Earth dist.	239 Apr 24 j 13:29	1°♐18'30	4.35180 AU	opposition	244 Oct 18 j 09:12	25°♑11'33	-1°-28'-22
	239 May 05 j 00:30	30°♐♑		direct	244 Dec 15 j 10:42	20°♑14'35	
direct	239 Jun 24 j 13:26	26°♑29'54			245 Mar 08 j 06:16	0°♑	
	239 Aug 13 j 05:06	0°♐		evening set	245 Apr 20 j 13:11	9°♑31'29	
evening set	239 Oct 28 j 09:08	14°♐28'54					
	239 Oct 30 j 16:33	15°♐		conjunction	245 May 04 j 06:40	12°♑42'53	0°-45'-1
max. Earth dist.	239 Nov 08 j 01:32	16°♐53'24	6.29425 AU	minimum elong	245 May 04 j 06:43	12°♑42'55	0°45'02
				max. Earth dist.	245 May 06 j 12:31	13°♑14'13	6.07876 AU
conjunction	239 Nov 10 j 00:16	17°♐19'50	0°41'02		245 May 14 j 02:42	15°♑	
minimum elong	239 Nov 10 j 00:18	17°♐19'51	0°41'03	morning rise	245 May 18 j 01:38	15°♑54'51	
morning rise	239 Nov 22 j 14:13	20°♐10'27			245 Jul 25 j 21:38	0°♐	
	240 Jan 08 j 06:56	0°♑		retrograde	245 Sep 23 j 13:37	5°♐16'37	
retrograde	240 Mar 25 j 16:09	8°♑09'39		min. Earth dist.	245 Nov 20 j 20:16	0°♐22'34	4.14330 AU
opposition	240 May 25 j 14:48	3°♑16'50	0°34'38	opposition	245 Nov 22 j 02:35	0°♐12'16	0°-39'-49
min. Earth dist.	240 May 26 j 22:11	3°♑06'49	4.22891 AU		245 Nov 23 j 14:39	30°♐♑	
	240 Jun 22 j 17:39	30°♐♐		direct	246 Jan 20 j 01:12	25°♑12'17	
direct	240 Jul 26 j 03:34	28°♐19'46			246 Mar 17 j 17:36	0°♐	
	240 Aug 28 j 06:17	0°♑		evening set	246 May 26 j 17:52	13°♐55'29	
evening set	240 Nov 28 j 09:03	16°♑49'12					
max. Earth dist.	240 Dec 09 j 14:23	19°♑25'43	6.16077 AU	conjunction	246 Jun 09 j 11:51	17°♐01'15	0°-7'00
				minimum elong	246 Jun 09 j 11:51	17°♐01'15	0°07'00
conjunction	240 Dec 11 j 01:28	19°♑46'10	0°03'37	behind sun begin	246 Jun 09 j 04:09	16°♐56'56	
minimum elong	240 Dec 11 j 01:27	19°♑46'09	0°03'37	behind sun end	246 Jun 09 j 19:33	17°♐05'35	
behind sun begin	240 Dec 10 j 17:31	19°♑41'33		max. Earth dist.	246 Jun 11 j 02:00	17°♐22'46	6.21210 AU
behind sun end	240 Dec 11 j 09:23	19°♑50'45		morning rise	246 Jun 23 j 05:38	20°♐06'36	
morning rise	240 Dec 23 j 18:30	22°♑43'40			246 Aug 09 j 11:13	0°♑	
desc. node	241 Jan 14 j 09:02	27°♑38'06		asc. node	246 Aug 17 j 00:33	1°♑22'28	
	241 Jan 25 j 07:41	0°♑		retrograde	246 Oct 26 j 03:07	8°♑21'24	
retrograde	241 Apr 30 j 08:00	11°♑46'47		opposition	246 Dec 24 j 19:53	3°♑20'04	0°19'04
opposition	241 Jun 30 j 02:07	6°♑51'19	0°-25'-44	min. Earth dist.	246 Dec 24 j 02:45	3°♑25'49	4.27826 AU
min. Earth dist.	241 Jun 30 j 17:45	6°♑46'15	4.09423 AU				

	247 Jan 21 j 03:10	30° RII		minimum elong	252 Dec 15 j 17:28	24° $\text{J}36'26$	0°02'21
direct	247 Feb 23 j 02:41	28° $\text{II}17'47$		behind sun begin	252 Dec 15 j 09:27	24° $\text{J}31'47$	
	247 Mar 28 j 12:16	0° S		behind sun end	252 Dec 16 j 01:28	24° $\text{J}41'06$	
evening set	247 Jun 30 j 03:30	16° $\text{S}27'28$		morning rise	252 Dec 28 j 11:03	27° $\text{J}35'05$	
					253 Jan 07 j 22:06	0° S	
conjunction	247 Jul 13 j 16:42	19° $\text{S}25'49$	0°31'47	retrograde	253 May 05 j 14:28	16° $\text{S}48'03$	
minimum elong	247 Jul 13 j 16:39	19° $\text{S}25'48$	0°31'48	opposition	253 Jul 05 j 06:01	11° $\text{S}52'10$	0°-34'-22
max. Earth dist.	247 Jul 14 j 06:24	19° $\text{S}33'21$	6.33849 AU	min. Earth dist.	253 Jul 05 j 19:35	11° $\text{S}47'46$	4.07636 AU
morning rise	247 Jul 27 j 03:36	22° $\text{S}22'55$		direct	253 Sep 03 j 04:22	6° $\text{S}57'52$	
	247 Sep 01 j 16:16	0° Q		evening set	254 Jan 06 j 03:03	26° $\text{S}07'11$	
retrograde	247 Nov 26 j 02:17	9° $\text{Q}44'03$					
opposition	248 Jan 25 j 02:06	4° $\text{Q}46'38$	1°09'03	conjunction	254 Jan 19 j 00:33	29° $\text{S}12'13$	0°-41'-45
min. Earth dist.	248 Jan 25 j 02:01	4° $\text{Q}46'39$	4.38667 AU	minimum elong	254 Jan 19 j 00:30	29° $\text{S}12'12$	0°41'47
	248 Mar 13 j 06:57	30° RS		max. Earth dist.	254 Jan 18 j 20:16	29° $\text{S}09'40$	6.02351 AU
direct	248 Mar 26 j 15:17	29° $\text{S}43'26$			254 Jan 22 j 08:18	0° \approx	
	248 Apr 09 j 02:18	0° Q		morning rise	254 Feb 01 j 00:21	2° \approx 18'38	
	248 Jul 20 j 02:04	15° Q			254 Mar 31 j 08:09	15° \approx	
evening set	248 Jul 31 j 18:13	17° $\text{Q}29'23$		retrograde	254 Jun 12 j 04:25	22° \approx 29'58	
				opposition	254 Aug 11 j 11:44	17° \approx 30'13	-1°-25'-59
conjunction	248 Aug 13 j 23:17	20° $\text{Q}21'05$	0°59'55	min. Earth dist.	254 Aug 11 j 02:27	17° \approx 33'18	3.98628 AU
minimum elong	248 Aug 13 j 23:15	20° $\text{Q}21'04$	0°59'55		254 Aug 31 j 08:36	15° $\text{R}\approx$	
max. Earth dist.	248 Aug 13 j 08:09	20° $\text{Q}12'52$	6.42036 AU	direct	254 Oct 09 j 01:33	12° \approx 36'53	
morning rise	248 Aug 27 j 01:36	23° $\text{Q}11'19$			254 Nov 16 j 06:22	15° \approx	
	248 Sep 28 j 21:39	0° R			255 Feb 02 j 02:39	0° K	
retrograde	248 Dec 25 j 09:59	10° $\text{R}03'34$		evening set	255 Feb 11 j 04:29	2° $\text{K}09'46$	
opposition	249 Feb 23 j 17:41	5° $\text{R}09'26$	1°38'13				
min. Earth dist.	249 Feb 24 j 11:38	5° $\text{R}03'37$	4.43817 AU	conjunction	255 Feb 24 j 08:55	5° $\text{K}20'21$	-1°-6'-48
direct	249 Apr 27 j 05:09	0° $\text{R}06'30$		minimum elong	255 Feb 24 j 08:53	5° $\text{K}20'20$	1°06'49
evening set	249 Sep 01 j 00:53	17° $\text{R}42'55$		max. Earth dist.	255 Feb 25 j 12:11	5° $\text{K}36'48$	5.96814 AU
max. Earth dist.	249 Sep 12 j 10:51	20° $\text{R}11'28$	6.43676 AU	morning rise	255 Mar 09 j 16:31	8° $\text{K}32'39$	
				retrograde	255 Jul 20 j 03:08	29° $\text{K}08'17$	
conjunction	249 Sep 13 j 22:34	20° $\text{R}30'54$	1°11'02	opposition	255 Sep 17 j 23:43	24° $\text{K}04'47$	-1°-45'-7
minimum elong	249 Sep 13 j 22:33	20° $\text{R}30'54$	1°11'02	min. Earth dist.	255 Sep 16 j 21:00	24° $\text{K}13'49$	3.97309 AU
morning rise	249 Sep 26 j 17:12	23° $\text{R}17'31$		direct	255 Nov 14 j 22:25	19° $\text{K}10'12$	
	249 Oct 28 j 22:02	0° A			256 Feb 09 j 23:26	0° Y	
retrograde	250 Jan 24 j 22:40	10° $\text{A}08'40$		evening set	256 Mar 19 j 10:58	8° $\text{Y}43'58$	
opposition	250 Mar 26 j 15:39	5° $\text{A}16'29$	1°40'48				
min. Earth dist.	250 Mar 27 j 21:40	5° $\text{A}06'53$	4.41967 AU	conjunction	256 Apr 01 j 23:24	11° $\text{Y}56'49$	-1°-6'-4
direct	250 May 28 j 09:11	0° $\text{A}14'56$		minimum elong	256 Apr 01 j 23:26	11° $\text{Y}56'50$	1°06'04
evening set	250 Oct 01 j 18:13	17° $\text{A}57'24$		max. Earth dist.	256 Apr 04 j 01:43	12° $\text{Y}26'46$	5.99727 AU
max. Earth dist.	250 Oct 12 j 11:09	20° $\text{A}19'01$	6.38396 AU	morning rise	256 Apr 15 j 14:36	15° $\text{Y}11'00$	
					256 Jun 25 j 14:55	0° B	
conjunction	250 Oct 14 j 10:48	20° $\text{A}45'23$	1°02'45	retrograde	256 Aug 24 j 17:56	5° $\text{B}22'02$	
minimum elong	250 Oct 14 j 10:50	20° $\text{A}45'24$	1°02'44	min. Earth dist.	256 Oct 21 j 22:23	0° $\text{B}28'23$	4.04171 AU
morning rise	250 Oct 27 j 01:18	23° $\text{A}32'31$		opposition	256 Oct 23 j 08:10	0° $\text{B}16'52$	-1°-23'00
	250 Nov 26 j 10:17	0° M			256 Oct 25 j 09:41	30° RY	
retrograde	251 Feb 25 j 19:04	10° $\text{M}49'57$		direct	256 Dec 20 j 11:16	25° $\text{Y}19'31$	
opposition	251 Apr 27 j 16:29	5° $\text{M}58'10$	1°15'37		257 Feb 13 j 09:34	0° B	
min. Earth dist.	251 Apr 29 j 04:29	5° $\text{M}46'43$	4.33553 AU	evening set	257 Apr 25 j 15:35	14° $\text{B}31'04$	
direct	251 Jun 29 j 01:51	0° $\text{M}58'48$			257 Apr 27 j 17:47	15° B	
	251 Oct 14 j 12:59	15° M					
evening set	251 Nov 01 j 18:55	19° $\text{M}02'00$		conjunction	257 May 09 j 09:15	17° $\text{B}41'42$	0°-40'-17
max. Earth dist.	251 Nov 12 j 11:00	21° $\text{M}26'59$	6.27507 AU	minimum elong	257 May 09 j 09:17	17° $\text{B}41'44$	0°40'18
				max. Earth dist.	257 May 11 j 12:28	18° $\text{B}11'21$	6.09853 AU
conjunction	251 Nov 14 j 10:03	21° $\text{M}53'42$	0°36'23	morning rise	257 May 23 j 04:29	20° $\text{B}52'50$	
minimum elong	251 Nov 14 j 10:05	21° $\text{M}53'43$	0°36'23		257 Jul 04 j 01:46	0° II	
morning rise	251 Nov 27 j 00:22	24° $\text{M}45'14$		retrograde	257 Sep 28 j 03:30	10° $\text{II}04'30$	
	251 Dec 20 j 18:40	0° J		opposition	257 Nov 26 j 17:35	5° $\text{II}00'28$	0°-31'-46
retrograde	252 Mar 30 j 12:49	12° $\text{J}53'15$		min. Earth dist.	257 Nov 25 j 12:49	5° $\text{II}10'14$	4.16395 AU
opposition	252 May 30 j 11:31	8° $\text{J}00'09$	0°26'36	direct	258 Jan 24 j 20:49	0° $\text{II}00'05$	
min. Earth dist.	252 May 31 j 16:33	7° $\text{J}50'51$	4.20819 AU	evening set	258 May 31 j 14:01	18° $\text{II}37'49$	
direct	252 Jul 30 j 18:56	3° $\text{J}03'27$					
desc. node	252 Nov 23 j 18:00	19° $\text{J}30'18$		conjunction	258 Jun 14 j 07:44	21° $\text{II}42'35$	0°-1'-22
evening set	252 Dec 03 j 00:29	21° $\text{J}38'25$		minimum elong	258 Jun 14 j 07:43	21° $\text{II}42'35$	0°01'24
max. Earth dist.	252 Dec 14 j 10:50	24° $\text{J}18'31$	6.14054 AU	behind sun begin	258 Jun 13 j 23:22	21° $\text{II}37'55$	
				behind sun end	258 Jun 14 j 16:05	21° $\text{II}47'15$	
conjunction	252 Dec 15 j 17:27	24° $\text{J}36'26$	0°-2'-19	max. Earth dist.	258 Jun 15 j 19:22	22° $\text{II}02'36$	6.23209 AU

asc. node	258 Jun 27 j 14:44	24°II41'13		evening set	264 Dec 07 j 16:42	26°♂30'09	
morning rise	258 Jun 28 j 00:38	24°II46'44		max. Earth dist.	264 Dec 19 j 06:10	29°♂12'40	6.12364 AU
	258 Jul 22 j 01:08	0°♄					
retrograde	258 Oct 30 j 11:44	12°♄52'49		conjunction	264 Dec 20 j 10:06	29°♂29'04	0°-8'-10
opposition	258 Dec 29 j 04:38	7°♄52'06	0°26'50	minimum elong	264 Dec 20 j 10:05	29°♂29'04	0°08'10
min. Earth dist.	258 Dec 28 j 14:01	7°♄57'00	4.29587 AU	behind sun begin	264 Dec 20 j 02:57	29°♂24'53	
direct	259 Feb 27 j 15:52	2°♄49'41		behind sun end	264 Dec 20 j 17:14	29°♂33'14	
evening set	259 Jul 04 j 17:26	20°♄55'30			264 Dec 22 j 14:45	0°♄	
				morning rise	265 Jan 02 j 04:28	2°♄28'44	
conjunction	259 Jul 18 j 05:30	23°♄52'51	0°36'29	retrograde	265 May 10 j 17:07	21°♄49'56	
minimum elong	259 Jul 18 j 05:28	23°♄52'50	0°36'29	opposition	265 Jul 10 j 09:23	16°♄53'31	0°-42'-44
max. Earth dist.	259 Jul 18 j 13:36	23°♄57'17	6.35227 AU	min. Earth dist.	265 Jul 10 j 18:58	16°♄50'23	4.06250 AU
morning rise	259 Jul 31 j 15:28	26°♄48'57		direct	265 Sep 08 j 02:14	11°♄59'25	
	259 Aug 15 j 11:00	0°♄			266 Jan 05 j 23:59	0°♄	
retrograde	259 Nov 30 j 07:45	14°♄05'04		evening set	266 Jan 11 j 01:23	1°♄12'03	
opposition	260 Jan 29 j 07:55	9°♄08'10	1°14'29				
min. Earth dist.	260 Jan 29 j 10:59	9°♄07'10	4.39599 AU	conjunction	266 Jan 23 j 23:40	4°♄17'51	0°-46'-28
direct	260 Mar 31 j 00:41	4°♄04'56		minimum elong	266 Jan 23 j 23:37	4°♄17'49	0°46'29
	260 Jul 03 j 05:02	15°♄		max. Earth dist.	266 Jan 24 j 00:07	4°♄18'07	6.01378 AU
evening set	260 Aug 05 j 03:13	21°♄49'24		morning rise	266 Feb 06 j 00:21	7°♄25'05	
					266 Mar 11 j 00:07	15°♄	
conjunction	260 Aug 18 j 07:22	24°♄40'32	1°02'32	retrograde	266 Jun 17 j 11:51	27°♄41'19	
minimum elong	260 Aug 18 j 07:20	24°♄40'30	1°02'32	opposition	266 Aug 16 j 17:16	22°♄40'57	-1°-30'-59
max. Earth dist.	260 Aug 17 j 13:59	24°♄31'05	6.42454 AU	min. Earth dist.	266 Aug 16 j 05:50	22°♄44'45	3.98170 AU
morning rise	260 Aug 31 j 08:23	27°♄30'08		direct	266 Oct 14 j 05:26	17°♄47'30	
	260 Sep 12 j 01:04	0°♄			267 Jan 15 j 13:56	0°♄	
retrograde	260 Dec 29 j 14:27	14°♄21'27		evening set	267 Feb 16 j 07:11	7°♄21'02	
opposition	261 Feb 27 j 23:43	9°♄27'44	1°40'12				
min. Earth dist.	261 Feb 28 j 19:09	9°♄21'27	4.43726 AU	conjunction	267 Mar 01 j 12:45	10°♄32'03	-1°-8'-22
direct	261 May 01 j 11:44	4°♄25'00		minimum elong	267 Mar 01 j 12:44	10°♄32'03	1°08'23
evening set	261 Sep 05 j 08:00	22°♄02'19		max. Earth dist.	267 Mar 02 j 20:40	10°♄51'17	5.96901 AU
max. Earth dist.	261 Sep 16 j 13:43	24°♄28'55	6.43077 AU	morning rise	267 Mar 14 j 21:24	13°♄44'45	
					267 Jun 01 j 18:13	0°♄	
conjunction	261 Sep 18 j 04:41	24°♄50'10	1°11'01	retrograde	267 Jul 25 j 07:07	4°♄19'03	
minimum elong	261 Sep 18 j 04:41	24°♄50'10	1°11'01		267 Sep 17 j 13:38	30°♄	
morning rise	261 Sep 30 j 22:43	27°♄36'46		min. Earth dist.	267 Sep 21 j 22:14	29°♄24'46	3.97959 AU
	261 Oct 12 j 01:16	0°♄		opposition	267 Sep 23 j 02:33	29°♄15'11	-1°-44'-24
retrograde	262 Jan 29 j 08:46	14°♄30'51		direct	267 Nov 20 j 00:06	24°♄20'17	
opposition	262 Mar 31 j 01:11	9°♄38'52	1°38'53		268 Jan 19 j 08:20	0°♄	
min. Earth dist.	262 Apr 01 j 09:20	9°♄28'36	4.40910 AU	evening set	268 Mar 24 j 14:56	13°♄51'37	
direct	262 Jun 01 j 18:59	4°♄37'34					
evening set	262 Oct 06 j 01:46	22°♄22'57		conjunction	268 Apr 07 j 04:09	17°♄04'19	-1°-3'-47
max. Earth dist.	262 Oct 16 j 18:12	24°♄44'46	6.36967 AU	minimum elong	268 Apr 07 j 04:11	17°♄04'21	1°03'47
				max. Earth dist.	268 Apr 09 j 06:07	17°♄33'58	6.00851 AU
conjunction	262 Oct 18 j 18:06	25°♄11'22	1°00'01	morning rise	268 Apr 20 j 20:18	20°♄18'21	
minimum elong	262 Oct 18 j 18:08	25°♄11'23	1°00'01		268 Jun 03 j 09:18	0°♄	
morning rise	262 Oct 31 j 08:21	27°♄58'59		retrograde	268 Aug 29 j 13:56	10°♄22'24	
	262 Nov 09 j 13:01	0°♄		min. Earth dist.	268 Oct 26 j 18:52	5°♄28'46	4.05640 AU
	263 Feb 14 j 19:40	15°♄		opposition	268 Oct 28 j 04:44	5°♄17'12	-1°-17'-10
retrograde	263 Mar 02 j 09:14	15°♄22'42		direct	268 Dec 25 j 10:35	0°♄19'22	
	263 Mar 18 j 00:18	15°♄			269 Apr 11 j 00:11	15°♄	
opposition	263 May 02 j 07:44	10°♄30'49	1°09'57	evening set	269 Apr 30 j 16:33	19°♄26'39	
min. Earth dist.	263 May 03 j 18:14	10°♄19'50	4.31851 AU				
direct	263 Jul 03 j 12:56	5°♄31'51		conjunction	269 May 14 j 10:44	22°♄36'43	0°-35'-21
	263 Sep 26 j 17:09	15°♄		minimum elong	269 May 14 j 10:46	22°♄36'44	0°35'21
evening set	263 Nov 06 j 05:45	23°♄39'13		max. Earth dist.	269 May 16 j 13:03	23°♄05'44	6.11560 AU
max. Earth dist.	263 Nov 17 j 00:25	26°♄06'17	6.25682 AU	morning rise	269 May 28 j 05:54	25°♄47'03	
					269 Jun 16 j 00:15	0°♄	
conjunction	263 Nov 18 j 20:55	26°♄31'41	0°31'27	retrograde	269 Oct 02 j 18:37	14°♄49'45	
minimum elong	263 Nov 18 j 20:57	26°♄31'42	0°31'27	min. Earth dist.	269 Nov 30 j 05:06	9°♄55'07	4.18146 AU
morning rise	263 Dec 01 j 11:28	29°♄24'05		opposition	269 Dec 01 j 07:41	9°♄46'05	0°-23'-35
	263 Dec 04 j 02:54	0°♄		direct	270 Jan 29 j 15:20	4°♄45'22	
retrograde	264 Apr 04 j 12:33	17°♄40'31		asc. node	270 May 07 j 23:36	17°♄09'49	
opposition	264 Jun 04 j 09:42	12°♄47'07	0°18'18	evening set	270 Jun 05 j 09:50	23°♄18'46	
min. Earth dist.	264 Jun 05 j 13:40	12°♄38'09	4.18979 AU				
direct	264 Aug 04 j 13:40	7°♄50'47		conjunction	270 Jun 19 j 03:02	26°♄22'38	0°04'19
desc. node	264 Oct 03 j 04:33	13°♄01'15		minimum elong	270 Jun 19 j 03:01	26°♄22'37	0°04'19

behind sun begin	270 Jun 18 j 18:49	26° Π 18'03		opposition	276 Jun 09 j 06:36	17° \mathcal{Z} 31'13	0°10'01
behind sun end	270 Jun 19 j 11:12	26° Π 27'10		min. Earth dist.	276 Jun 10 j 07:34	17° \mathcal{Z} 23'13	4.17618 AU
max. Earth dist.	270 Jun 20 j 10:35	26° Π 40'16	6.24861 AU	direct	276 Aug 09 j 05:36	12° \mathcal{Z} 35'18	
morning rise	270 Jul 02 j 19:22	29° Π 25'47		desc. node	276 Aug 14 j 01:54	12° \mathcal{Z} 37'32	
	270 Jul 05 j 09:10	0° \mathcal{E}			276 Dec 06 j 17:58	0° \mathcal{Z}	
retrograde	270 Nov 03 j 19:44	17° \mathcal{E} 24'28		evening set	276 Dec 12 j 07:22	1° \mathcal{Z} 17'34	
opposition	271 Jan 02 j 13:51	12° \mathcal{E} 24'14	0°34'26	max. Earth dist.	276 Dec 24 j 00:40	4° \mathcal{Z} 02'46	6.11142 AU
min. Earth dist.	271 Jan 02 j 01:14	12° \mathcal{E} 28'27	4.31014 AU				
direct	271 Mar 04 j 04:30	7° \mathcal{E} 21'35		conjunction	276 Dec 25 j 01:07	4° \mathcal{Z} 17'11	0°-13'-47
evening set	271 Jul 09 j 07:51	25° \mathcal{E} 24'31		minimum elong	276 Dec 25 j 01:06	4° \mathcal{Z} 17'10	0°13'48
				behind sun begin	276 Dec 24 j 20:43	4° \mathcal{Z} 14'36	
conjunction	271 Jul 22 j 19:01	28° \mathcal{E} 21'01	0°40'59	behind sun end	276 Dec 25 j 05:30	4° \mathcal{Z} 19'45	
minimum elong	271 Jul 22 j 18:58	28° \mathcal{E} 21'00	0°40'59	morning rise	277 Jan 06 j 20:06	7° \mathcal{Z} 17'39	
max. Earth dist.	271 Jul 22 j 23:54	28° \mathcal{E} 23'42	6.36332 AU	retrograde	277 May 15 j 19:16	26° \mathcal{Z} 45'37	
	271 Jul 30 j 07:53	0° \mathcal{Q}		opposition	277 Jul 15 j 10:19	21° \mathcal{Z} 48'42	0°-50'-33
morning rise	271 Aug 05 j 03:42	1° \mathcal{Q} 16'10		min. Earth dist.	277 Jul 15 j 17:51	21° \mathcal{Z} 46'14	4.05262 AU
	271 Oct 17 j 10:20	15° \mathcal{Q}		direct	277 Sep 13 j 00:24	16° \mathcal{Z} 54'47	
retrograde	271 Dec 04 j 14:21	18° \mathcal{Q} 28'05			277 Dec 20 j 07:49	0° \approx	
	272 Jan 22 j 05:26	15° \mathcal{R} \mathcal{Q}		evening set	278 Jan 15 j 20:47	6° \approx 09'32	
opposition	272 Feb 02 j 15:00	13° \mathcal{Q} 31'44	1°19'34				
min. Earth dist.	272 Feb 02 j 20:31	13° \mathcal{Q} 29'56	4.40324 AU	conjunction	278 Jan 28 j 19:54	9° \approx 15'58	0°-50'-41
direct	272 Apr 04 j 10:51	8° \mathcal{Q} 28'33		minimum elong	278 Jan 28 j 19:52	9° \approx 15'57	0°50'42
	272 Jun 13 j 14:08	15° \mathcal{Q}		max. Earth dist.	278 Jan 29 j 00:35	9° \approx 18'47	6.00713 AU
evening set	272 Aug 09 j 13:42	26° \mathcal{Q} 11'59		morning rise	278 Feb 10 j 21:29	12° \approx 23'54	
					278 Feb 21 j 21:31	15° \approx	
conjunction	272 Aug 22 j 16:40	29° \mathcal{Q} 02'33	1°04'51		278 May 11 j 09:32	0° \mathcal{H}	
minimum elong	272 Aug 22 j 16:38	29° \mathcal{Q} 02'32	1°04'52	retrograde	278 Jun 22 j 15:00	2° \mathcal{H} 43'48	
max. Earth dist.	272 Aug 21 j 18:51	28° \mathcal{Q} 50'42	6.42737 AU		278 Aug 03 j 22:57	30° \mathcal{R} \approx	
	272 Aug 27 j 02:30	0° \mathcal{P}		opposition	278 Aug 21 j 18:48	27° \approx 42'58	-1°-35'-6
morning rise	272 Sep 04 j 16:45	1° \mathcal{P} 51'38		min. Earth dist.	278 Aug 21 j 05:02	27° \approx 47'34	3.97931 AU
retrograde	273 Jan 02 j 22:07	18° \mathcal{P} 42'24		direct	278 Oct 19 j 03:33	22° \approx 49'29	
opposition	273 Mar 04 j 07:41	13° \mathcal{P} 49'02	1°41'41		278 Dec 26 j 22:20	0° \mathcal{H}	
min. Earth dist.	273 Mar 05 j 05:17	13° \mathcal{P} 42'03	4.43592 AU	evening set	279 Feb 21 j 06:45	12° \mathcal{H} 23'22	
direct	273 May 05 j 21:00	8° \mathcal{P} 46'28					
evening set	273 Sep 09 j 16:09	26° \mathcal{P} 24'30		conjunction	279 Mar 06 j 13:10	15° \mathcal{H} 34'44	-1°-9'-21
max. Earth dist.	273 Sep 20 j 21:12	28° \mathcal{P} 50'58	6.42551 AU	minimum elong	279 Mar 06 j 13:10	15° \mathcal{H} 34'44	1°09'22
				max. Earth dist.	279 Mar 07 j 22:19	15° \mathcal{H} 54'41	5.97080 AU
conjunction	273 Sep 22 j 12:13	29° \mathcal{P} 12'18	1°10'38	morning rise	279 Mar 19 j 23:00	18° \mathcal{H} 47'50	
minimum elong	273 Sep 22 j 12:14	29° \mathcal{P} 12'18	1°10'37		279 May 09 j 04:47	0° \mathcal{Y}	
	273 Sep 26 j 03:30	0° \mathcal{A}		retrograde	279 Jul 30 j 05:36	9° \mathcal{Y} 20'35	
morning rise	273 Oct 05 j 05:23	1° \mathcal{A} 58'47		min. Earth dist.	279 Sep 26 j 19:27	4° \mathcal{Y} 26'27	3.98550 AU
retrograde	274 Feb 02 j 18:12	18° \mathcal{A} 55'35		opposition	279 Sep 28 j 01:02	4° \mathcal{Y} 16'25	-1°-42'-57
opposition	274 Apr 04 j 12:21	14° \mathcal{A} 03'46	1°36'25		279 Nov 05 j 13:41	30° \mathcal{R} \mathcal{H}	
min. Earth dist.	274 Apr 05 j 20:13	13° \mathcal{A} 53'36	4.40051 AU	direct	279 Nov 24 j 22:18	29° \mathcal{H} 21'11	
direct	274 Jun 06 j 04:30	9° \mathcal{A} 02'52			279 Dec 14 j 09:03	0° \mathcal{Y}	
evening set	274 Oct 10 j 10:10	26° \mathcal{A} 50'10		evening set	280 Mar 29 j 15:23	18° \mathcal{Y} 50'49	
max. Earth dist.	274 Oct 21 j 01:51	29° \mathcal{A} 12'03	6.35851 AU				
				conjunction	280 Apr 12 j 05:42	22° \mathcal{Y} 03'33	-1°-1'-8
conjunction	274 Oct 23 j 01:57	29° \mathcal{A} 38'51	0°56'58	minimum elong	280 Apr 12 j 05:44	22° \mathcal{Y} 03'35	1°01'09
minimum elong	274 Oct 23 j 01:59	29° \mathcal{A} 38'52	0°56'58	max. Earth dist.	280 Apr 14 j 09:13	22° \mathcal{Y} 34'02	6.01812 AU
	274 Oct 24 j 15:54	0° \mathcal{M}		morning rise	280 Apr 25 j 22:27	25° \mathcal{Y} 17'26	
morning rise	274 Nov 04 j 16:04	2° \mathcal{M} 26'52			280 May 16 j 09:36	0° \mathcal{B}	
	275 Jan 07 j 08:41	15° \mathcal{M}			280 Aug 21 j 21:24	15° \mathcal{B}	
retrograde	275 Mar 07 j 01:49	19° \mathcal{M} 55'55		retrograde	280 Sep 03 j 09:46	15° \mathcal{B} 15'31	
opposition	275 May 06 j 23:47	15° \mathcal{M} 03'56	1°03'52		280 Sep 15 j 18:51	15° \mathcal{R} \mathcal{B}	
	275 May 07 j 12:08	15° \mathcal{R} \mathcal{M}		opposition	280 Nov 01 j 22:19	10° \mathcal{B} 10'26	-1°-11'-2
min. Earth dist.	275 May 08 j 10:18	14° \mathcal{M} 52'56	4.30538 AU	min. Earth dist.	280 Oct 31 j 13:51	10° \mathcal{B} 21'31	4.06856 AU
direct	275 Jul 08 j 03:15	10° \mathcal{M} 05'21		direct	280 Dec 30 j 07:04	5° \mathcal{B} 12'13	
	275 Sep 05 j 04:25	15° \mathcal{M}			281 Mar 23 j 23:21	15° \mathcal{B}	
evening set	275 Nov 10 j 16:18	28° \mathcal{M} 15'27		evening set	281 May 05 j 15:00	24° \mathcal{B} 16'27	
	275 Nov 18 j 07:51	0° \mathcal{Z}					
max. Earth dist.	275 Nov 21 j 13:05	0° \mathcal{Z} 44'10	6.24295 AU	conjunction	281 May 19 j 09:24	27° \mathcal{B} 26'02	0°-30'-19
				minimum elong	281 May 19 j 09:26	27° \mathcal{B} 26'03	0°30'19
conjunction	275 Nov 23 j 07:37	1° \mathcal{Z} 08'31	0°26'24	max. Earth dist.	281 May 21 j 09:45	27° \mathcal{B} 53'49	6.12933 AU
minimum elong	275 Nov 23 j 07:39	1° \mathcal{Z} 08'32	0°26'23		281 May 30 j 13:57	0° \mathcal{H}	
morning rise	275 Dec 05 j 22:24	4° \mathcal{Z} 01'37		morning rise	281 Jun 02 j 04:44	0° \mathcal{H} 35'48	
retrograde	276 Apr 09 j 08:20	22° \mathcal{Z} 24'58		retrograde	281 Oct 07 j 05:58	19° \mathcal{H} 31'00	

opposition	281 Dec 05 j 19:50	14°II27'44	0°-15'-31		287 Nov 02 j 12:22	0°♂	
min. Earth dist.	281 Dec 04 j 18:05	14°II36'28	4.19556 AU	evening set	287 Nov 15 j 02:10	2°♂49'52	
direct	282 Feb 03 j 05:54	9°II26'42		max. Earth dist.	287 Nov 25 j 23:51	5°♂19'45	6.22584 AU
asc. node	282 Mar 19 j 07:44	12°II24'04					
evening set	282 Jun 10 j 04:16	27°II57'05		conjunction	287 Nov 27 j 17:30	5°♂43'41	0°21'09
	282 Jun 19 j 09:13	0°♄		minimum elong	287 Nov 27 j 17:31	5°♂43'42	0°21'10
				morning rise	287 Dec 10 j 08:45	8°♂37'40	
conjunction	282 Jun 23 j 20:57	1°♄00'08	0°09'45	retrograde	288 Apr 14 j 06:29	27°♂09'23	
minimum elong	282 Jun 23 j 20:56	1°♄00'08	0°09'45	opposition	288 Jun 14 j 03:46	22°♂15'13	0°01'35
behind sun begin	282 Jun 23 j 14:12	0°♄56'23		min. Earth dist.	288 Jun 15 j 03:27	22°♂07'37	4.15813 AU
behind sun end	282 Jun 24 j 03:41	1°♄03'53		desc. node	288 Jun 24 j 13:04	20°♂56'02	
max. Earth dist.	282 Jun 25 j 01:04	1°♄15'50	6.26220 AU	direct	288 Aug 13 j 23:22	17°♂19'34	
morning rise	282 Jul 07 j 12:31	4°♄02'23			288 Nov 20 j 02:39	0°♄	
retrograde	282 Nov 08 j 04:46	21°♄54'44		evening set	288 Dec 16 j 22:51	6°♄06'30	
opposition	283 Jan 06 j 22:19	16°♄55'01	0°41'41				
min. Earth dist.	283 Jan 06 j 12:33	16°♄58'16	4.32218 AU	conjunction	288 Dec 29 j 17:18	9°♄07'07	0°-19'-25
direct	283 Mar 08 j 17:35	11°♄52'14		minimum elong	288 Dec 29 j 17:17	9°♄07'06	0°19'26
evening set	283 Jul 13 j 21:29	29°♄52'46		max. Earth dist.	288 Dec 28 j 20:27	8°♄54'48	6.09415 AU
	283 Jul 14 j 10:48	0°♄		morning rise	289 Jan 11 j 12:59	12°♄08'39	
					289 Apr 17 j 05:13	0°♄	
conjunction	283 Jul 27 j 07:39	2°♄48'28	0°45'12	retrograde	289 May 20 j 23:05	1°♄45'11	
minimum elong	283 Jul 27 j 07:37	2°♄48'27	0°45'11		289 Jun 23 j 18:35	30°♄	
max. Earth dist.	283 Jul 27 j 09:14	2°♄49'19	6.37287 AU	opposition	289 Jul 20 j 12:39	26°♄47'48	0°-58'-14
morning rise	283 Aug 09 j 15:15	5°♄42'46		min. Earth dist.	289 Jul 20 j 17:25	26°♄46'14	4.03785 AU
	283 Sep 24 j 06:53	15°♄		direct	289 Sep 17 j 21:40	21°♄54'03	
retrograde	283 Dec 08 j 19:22	22°♄50'51			289 Dec 01 j 05:50	0°♄	
opposition	284 Feb 06 j 21:47	17°♄54'52	1°24'07	evening set	290 Jan 20 j 19:22	11°♄13'01	
min. Earth dist.	284 Feb 07 j 04:52	17°♄52'33	4.40992 AU				
	284 Mar 01 j 17:42	15°♄		conjunction	290 Feb 02 j 19:17	14°♄20'19	0°-54'-39
direct	284 Apr 08 j 19:49	12°♄51'40		minimum elong	290 Feb 02 j 19:14	14°♄20'18	0°54'39
	284 May 17 j 08:41	15°♄		max. Earth dist.	290 Feb 03 j 02:40	14°♄24'46	5.99604 AU
	284 Aug 11 j 08:14	0°♄			290 Feb 05 j 13:13	15°♄	
evening set	284 Aug 13 j 23:04	0°♄33'46		morning rise	290 Feb 15 j 22:04	17°♄29'14	
max. Earth dist.	284 Aug 26 j 01:48	3°♄11'08	6.43058 AU		290 Apr 13 j 23:12	0°♄	
				retrograde	290 Jun 27 j 20:14	7°♄54'22	
conjunction	284 Aug 27 j 01:01	3°♄23'45	1°06'46	opposition	290 Aug 26 j 23:27	2°♄53'00	-1°-38'-40
minimum elong	284 Aug 27 j 00:59	3°♄23'44	1°06'46	min. Earth dist.	290 Aug 26 j 06:45	2°♄58'35	3.97323 AU
morning rise	284 Sep 08 j 23:53	6°♄12'15			290 Sep 19 j 02:50	30°♄	
retrograde	285 Jan 07 j 04:07	23°♄02'09		direct	290 Oct 24 j 05:09	27°♄59'21	
opposition	285 Mar 08 j 15:02	18°♄09'01	1°42'35		290 Nov 28 j 00:18	0°♄	
min. Earth dist.	285 Mar 09 j 14:11	18°♄01'34	4.43541 AU	evening set	291 Feb 26 j 10:31	17°♄35'02	
direct	285 May 10 j 06:11	13°♄06'37					
	285 Sep 10 j 12:40	0°♄		conjunction	291 Mar 11 j 18:17	20°♄46'59	-1°-9'-50
evening set	285 Sep 13 j 23:10	0°♄44'39		minimum elong	291 Mar 11 j 18:17	20°♄46'59	1°09'50
max. Earth dist.	285 Sep 25 j 00:23	3°♄09'18	6.42091 AU	max. Earth dist.	291 Mar 13 j 08:08	21°♄09'45	5.97036 AU
				morning rise	291 Mar 25 j 05:06	24°♄00'35	
conjunction	285 Sep 26 j 18:19	3°♄32'15	1°09'50		291 Apr 19 j 23:18	0°♄	
minimum elong	285 Sep 26 j 18:20	3°♄32'15	1°09'50	retrograde	291 Aug 04 j 11:02	14°♄32'10	
morning rise	285 Oct 09 j 10:57	6°♄18'41		min. Earth dist.	291 Oct 01 j 21:42	9°♄37'59	3.99085 AU
retrograde	286 Feb 07 j 03:52	23°♄17'52		opposition	291 Oct 03 j 03:45	9°♄27'47	-1°-40'-39
opposition	286 Apr 08 j 22:27	18°♄26'01	1°33'23	direct	291 Nov 30 j 01:53	4°♄32'14	
min. Earth dist.	286 Apr 10 j 07:28	18°♄15'29	4.39184 AU	evening set	292 Apr 03 j 20:49	24°♄00'14	
direct	286 Jun 10 j 14:22	13°♄25'17					
	286 Oct 09 j 01:57	0°♄		conjunction	292 Apr 17 j 11:57	27°♄12'54	0°-57'-55
evening set	286 Oct 14 j 17:00	1°♄14'25		minimum elong	292 Apr 17 j 12:00	27°♄12'55	0°57'55
max. Earth dist.	286 Oct 25 j 09:25	3°♄37'05	6.34631 AU	max. Earth dist.	292 Apr 19 j 16:23	27°♄43'48	6.02882 AU
					292 Apr 29 j 08:03	0°♄	
conjunction	286 Oct 27 j 08:40	4°♄03'29	0°53'36	morning rise	292 May 01 j 05:34	0°♄26'37	
minimum elong	286 Oct 27 j 08:42	4°♄03'30	0°53'36		292 Jul 10 j 14:23	15°♄	
morning rise	286 Nov 08 j 22:30	6°♄51'54		retrograde	292 Sep 08 j 06:17	20°♄17'36	
	286 Dec 17 j 09:43	15°♄		min. Earth dist.	292 Nov 05 j 09:57	15°♄24'01	4.08367 AU
retrograde	287 Mar 11 j 15:20	24°♄26'39		opposition	292 Nov 06 j 19:16	15°♄12'39	-1°-4'-8
opposition	287 May 11 j 14:42	19°♄34'29	0°57'25		292 Nov 08 j 08:23	15°♄	
min. Earth dist.	287 May 13 j 00:10	19°♄23'49	4.29015 AU	direct	293 Jan 04 j 05:44	10°♄14'05	
	287 Jun 26 j 13:01	15°♄			293 Mar 01 j 03:57	15°♄	
direct	287 Jul 12 j 14:35	14°♄36'15		evening set	293 May 10 j 17:22	29°♄14'06	
	287 Jul 28 j 17:24	15°♄			293 May 14 j 01:57	0°♄	

conjunction	293 May 24 j 11:53	2°♄22'56	0°-24'-54	direct	299 Jul 17 j 00:29	19°♄02'01	
minimum elong	293 May 24 j 11:55	2°♄22'57	0°24'55		299 Oct 16 j 21:57	0°♄	
max. Earth dist.	293 May 26 j 10:17	2°♄49'29	6.14793 AU	evening set	299 Nov 19 j 10:19	7°♄21'03	
morning rise	293 Jun 07 j 07:01	5°♄31'46		max. Earth dist.	299 Nov 30 j 10:41	9°♄53'09	6.20359 AU
retrograde	293 Oct 11 j 20:47	24°♄17'24					
min. Earth dist.	293 Dec 09 j 10:49	19°♄22'30	4.21581 AU	conjunction	299 Dec 02 j 02:08	10°♄15'56	0°15'54
opposition	293 Dec 10 j 10:20	19°♄14'33	0°-7'-10	minimum elong	299 Dec 02 j 02:09	10°♄15'56	0°15'55
asc. node	294 Jan 27 j 09:08	14°♄26'43		behind sun begin	299 Dec 02 j 00:24	10°♄14'56	
direct	294 Feb 08 j 01:54	14°♄13'14		behind sun end	299 Dec 02 j 03:54	10°♄16'57	
	294 Jun 02 j 22:57	0°♄		morning rise	299 Dec 14 j 17:45	13°♄11'02	
evening set	294 Jun 15 j 00:03	2°♄38'12			300 Mar 14 j 22:51	0°♄	
				retrograde	300 Apr 19 j 04:06	1°♄53'09	
conjunction	294 Jun 28 j 16:05	5°♄40'06	0°15'12	desc. node	300 May 06 j 02:32	1°♄26'17	
minimum elong	294 Jun 28 j 16:04	5°♄40'05	0°15'13		300 May 24 j 15:01	30°♄	
behind sun begin	294 Jun 28 j 13:50	5°♄38'51		opposition	300 Jun 19 j 00:07	26°♄58'41	0°-6'-44
behind sun end	294 Jun 28 j 18:18	5°♄41'19		min. Earth dist.	300 Jun 19 j 22:08	26°♄51'36	4.13479 AU
max. Earth dist.	294 Jun 29 j 18:18	5°♄54'40	6.28265 AU	direct	300 Aug 18 j 14:19	22°♄03'21	
morning rise	294 Jul 12 j 06:37	8°♄41'03			300 Nov 01 j 08:52	0°♄	
retrograde	294 Nov 12 j 10:39	26°♄24'43		evening set	300 Dec 21 j 14:49	10°♄57'12	
opposition	295 Jan 11 j 06:56	21°♄25'31	0°48'40				
min. Earth dist.	295 Jan 10 j 22:19	21°♄28'23	4.34127 AU	conjunction	301 Jan 03 j 09:52	13°♄59'04	0°-24'-52
direct	295 Mar 13 j 05:44	16°♄22'38		minimum elong	301 Jan 03 j 09:50	13°♄59'03	0°24'54
	295 Jun 28 j 03:33	0°♄		max. Earth dist.	301 Jan 02 j 15:09	13°♄47'58	6.07170 AU
evening set	295 Jul 18 j 10:06	4°♄18'21		morning rise	301 Jan 16 j 06:39	17°♄02'02	
					301 Mar 17 j 20:48	0°♄	
conjunction	295 Jul 31 j 18:58	7°♄12'52	0°49'05	retrograde	301 May 26 j 04:48	6°♄49'22	
minimum elong	295 Jul 31 j 18:55	7°♄12'51	0°49'05	opposition	301 Jul 25 j 16:21	1°♄51'24	-1°-5'-29
max. Earth dist.	295 Jul 31 j 16:33	7°♄11'33	6.38909 AU	min. Earth dist.	301 Jul 25 j 17:39	1°♄50'58	4.01848 AU
morning rise	295 Aug 14 j 01:16	10°♄05'59			301 Aug 09 j 04:49	30°♄	
	295 Sep 06 j 05:20	15°♄		direct	301 Sep 22 j 19:54	26°♄57'45	
retrograde	295 Dec 12 j 23:36	27°♄08'24			301 Nov 05 j 10:29	0°♄	
opposition	296 Feb 11 j 02:55	22°♄12'55	1°28'04		302 Jan 20 j 01:26	15°♄	
min. Earth dist.	296 Feb 11 j 13:10	22°♄09'35	4.42219 AU	evening set	302 Jan 25 j 19:58	16°♄22'40	
direct	296 Apr 13 j 05:50	17°♄09'46					
	296 Jul 26 j 08:03	0°♄		conjunction	302 Feb 07 j 21:08	19°♄31'09	0°-58'-11
evening set	296 Aug 18 j 05:41	4°♄48'50		minimum elong	302 Feb 07 j 21:06	19°♄31'08	0°58'12
max. Earth dist.	296 Aug 30 j 03:30	7°♄23'26	6.43769 AU	max. Earth dist.	302 Feb 08 j 10:43	19°♄39'21	5.98169 AU
				morning rise	302 Feb 21 j 00:59	22°♄41'13	
conjunction	296 Aug 31 j 06:32	7°♄38'06	1°08'16		302 Mar 24 j 15:11	0°♄	
minimum elong	296 Aug 31 j 06:31	7°♄38'05	1°08'15	retrograde	302 Jul 03 j 06:28	13°♄12'28	
morning rise	296 Sep 13 j 04:20	10°♄25'54		min. Earth dist.	302 Aug 31 j 11:44	8°♄16'53	3.96571 AU
retrograde	297 Jan 11 j 06:32	27°♄14'08		opposition	302 Sep 01 j 06:39	8°♄10'33	-1°-41'-27
opposition	297 Mar 12 j 19:25	22°♄21'14	1°42'52	direct	302 Oct 29 j 09:47	3°♄16'46	
min. Earth dist.	297 Mar 13 j 20:17	22°♄13'14	4.43704 AU	evening set	303 Mar 03 j 17:38	22°♄54'30	
direct	297 May 14 j 11:35	17°♄18'57					
	297 Aug 25 j 18:27	0°♄		conjunction	303 Mar 17 j 02:30	26°♄07'00	-1°-9'-43
evening set	297 Sep 18 j 02:29	4°♄56'38		minimum elong	303 Mar 17 j 02:30	26°♄07'00	1°09'43
max. Earth dist.	297 Sep 29 j 01:55	7°♄20'29	6.41676 AU	max. Earth dist.	303 Mar 18 j 19:41	26°♄31'43	5.97017 AU
				morning rise	303 Mar 30 j 14:40	29°♄21'08	
conjunction	297 Sep 30 j 21:01	7°♄44'07	1°08'41		303 Apr 02 j 08:02	0°♄	
minimum elong	297 Sep 30 j 21:02	7°♄44'07	1°08'41	retrograde	303 Aug 09 j 16:01	19°♄50'30	
morning rise	297 Oct 13 j 12:54	10°♄30'28		min. Earth dist.	303 Oct 06 j 23:37	14°♄56'53	3.99810 AU
retrograde	298 Feb 11 j 09:43	27°♄32'24		opposition	303 Oct 08 j 08:20	14°♄45'45	-1°-37'-25
opposition	298 Apr 13 j 05:31	22°♄40'38	1°29'57	direct	303 Dec 05 j 05:57	9°♄49'45	
min. Earth dist.	298 Apr 14 j 15:57	22°♄29'40	4.38196 AU	evening set	304 Apr 09 j 04:33	29°♄15'04	
direct	298 Jun 14 j 20:37	17°♄40'12			304 Apr 12 j 09:21	0°♄	
	298 Sep 23 j 05:35	0°♄					
evening set	298 Oct 18 j 20:49	5°♄31'51		conjunction	304 Apr 22 j 20:29	2°♄27'27	0°-54'-9
max. Earth dist.	298 Oct 29 j 10:38	7°♄53'39	6.33126 AU	minimum elong	304 Apr 22 j 20:32	2°♄27'29	0°54'09
				max. Earth dist.	304 Apr 25 j 01:39	2°♄58'41	6.04257 AU
conjunction	298 Oct 31 j 12:07	8°♄21'24	0°50'01	morning rise	304 May 06 j 14:40	5°♄40'45	
minimum elong	298 Oct 31 j 12:09	8°♄21'25	0°50'00		304 Jun 17 j 19:27	15°♄	
morning rise	298 Nov 13 j 02:06	11°♄10'27		retrograde	304 Sep 13 j 04:40	25°♄23'01	
	298 Nov 30 j 12:08	15°♄		min. Earth dist.	304 Nov 10 j 09:18	20°♄29'03	4.10183 AU
retrograde	299 Mar 16 j 04:45	28°♄52'22		opposition	304 Nov 11 j 17:29	20°♄18'04	0°-56'-40
opposition	299 May 16 j 03:27	24°♄00'00	0°50'47	direct	305 Jan 09 j 08:17	15°♄18'59	
min. Earth dist.	299 May 17 j 13:02	23°♄49'18	4.27064 AU		305 Apr 26 j 21:49	0°♄	

evening set	305 May 15 j 20:14	4° Π 13'23		conjunction	310 Nov 04 j 20:49	12° \mathcal{M} 51'30	0°45'59
				minimum elong	310 Nov 04 j 20:51	12° \mathcal{M} 51'32	0°45'59
conjunction	305 May 29 j 14:49	7° Π 21'17	0°-19'-16		310 Nov 14 j 09:04	15° \mathcal{M}	
minimum elong	305 May 29 j 14:50	7° Π 21'18	0°19'17	morning rise	310 Nov 17 j 10:42	15° \mathcal{M} 41'17	
max. Earth dist.	305 May 31 j 12:47	7° Π 47'27	6.16873 AU		311 Jan 31 j 00:58	0° \mathcal{A}	
morning rise	305 Jun 12 j 09:31	10° Π 29'00		retrograde	311 Mar 20 j 23:36	3° \mathcal{A} 31'09	
retrograde	305 Oct 16 j 09:39	29° Π 04'17			311 May 10 j 03:29	30° $\mathcal{R}\mathcal{M}$	
asc. node	305 Dec 06 j 09:27	25° Π 11'18		opposition	311 May 20 j 22:12	28° \mathcal{M} 38'40	0°43'29
min. Earth dist.	305 Dec 14 j 02:30	24° Π 09'27	4.23697 AU	min. Earth dist.	311 May 22 j 07:17	28° \mathcal{M} 28'07	4.25069 AU
opposition	305 Dec 15 j 01:02	24° Π 01'51	0°01'17	direct	311 Jul 21 j 15:38	23° \mathcal{M} 41'09	
direct	306 Feb 12 j 20:37	19° Π 00'13			311 Sep 26 j 18:15	0° \mathcal{A}	
	306 May 16 j 05:36	0° \mathcal{E}		evening set	311 Nov 23 j 23:58	12° \mathcal{A} 05'26	
evening set	306 Jun 19 j 20:06	7° \mathcal{E} 19'35		max. Earth dist.	311 Dec 05 j 01:31	14° \mathcal{A} 39'01	6.18276 AU
conjunction	306 Jul 03 j 11:08	10° \mathcal{E} 20'16	0°20'38	conjunction	311 Dec 06 j 15:57	15° \mathcal{A} 01'18	0°10'17
minimum elong	306 Jul 03 j 11:06	10° \mathcal{E} 20'15	0°20'37	minimum elong	311 Dec 06 j 15:58	15° \mathcal{A} 01'19	0°10'17
max. Earth dist.	306 Jul 04 j 08:16	10° \mathcal{E} 31'57	6.30233 AU	behind sun begin	311 Dec 06 j 09:34	14° \mathcal{A} 57'37	
morning rise	306 Jul 17 j 00:43	13° \mathcal{E} 19'56		behind sun end	311 Dec 06 j 22:21	15° \mathcal{A} 05'00	
	306 Oct 23 j 16:30	0° \mathcal{Q}		morning rise	311 Dec 19 j 08:19	17° \mathcal{A} 57'35	
retrograde	306 Nov 16 j 19:28	0° \mathcal{Q} 55'35			312 Feb 14 j 13:26	0° \mathcal{E}	
	306 Dec 10 j 18:05	30° $\mathcal{R}\mathcal{E}$		desc. node	312 Mar 15 j 09:26	4° \mathcal{E} 25'27	
opposition	307 Jan 15 j 16:16	25° \mathcal{E} 56'54	0°55'29	retrograde	312 Apr 24 j 07:04	6° \mathcal{E} 49'46	
min. Earth dist.	307 Jan 15 j 11:11	25° \mathcal{E} 58'36	4.35797 AU	opposition	312 Jun 24 j 02:14	1° \mathcal{E} 54'55	0°-15'-31
direct	307 Mar 17 j 20:59	20° \mathcal{E} 53'51		min. Earth dist.	312 Jun 24 j 21:06	1° \mathcal{E} 48'49	4.11479 AU
	307 Jun 10 j 01:30	0° \mathcal{Q}			312 Jul 09 j 08:01	30° $\mathcal{R}\mathcal{A}$	
evening set	307 Jul 22 j 23:16	8° \mathcal{Q} 45'42		direct	312 Aug 23 j 10:56	26° \mathcal{A} 59'56	
					312 Oct 06 j 13:14	0° \mathcal{E}	
conjunction	307 Aug 05 j 07:07	11° \mathcal{Q} 39'16	0°52'48	evening set	312 Dec 26 j 11:34	15° \mathcal{E} 59'17	
minimum elong	307 Aug 05 j 07:05	11° \mathcal{Q} 39'14	0°52'49				
max. Earth dist.	307 Aug 05 j 01:47	11° \mathcal{Q} 36'21	6.40147 AU	conjunction	313 Jan 08 j 07:28	19° \mathcal{E} 02'14	0°-30'-25
morning rise	307 Aug 18 j 12:02	14° \mathcal{Q} 31'20		minimum elong	313 Jan 08 j 07:26	19° \mathcal{E} 02'13	0°30'25
	307 Aug 20 j 17:12	15° \mathcal{Q}		max. Earth dist.	313 Jan 07 j 18:33	18° \mathcal{E} 54'33	6.05470 AU
	307 Nov 16 j 03:29	0° \mathcal{M}		morning rise	313 Jan 21 j 04:59	22° \mathcal{E} 06'19	
retrograde	307 Dec 17 j 03:52	1° \mathcal{M} 29'39			313 Feb 24 j 21:38	0° \approx	
	308 Jan 17 j 04:24	30° $\mathcal{R}\mathcal{Q}$		retrograde	313 May 31 j 14:29	12° \approx 02'04	
opposition	308 Feb 15 j 09:52	26° \mathcal{Q} 34'35	1°31'44	opposition	313 Jul 30 j 23:39	7° \approx 03'37	-1°-12'-30
min. Earth dist.	308 Feb 15 j 21:42	26° \mathcal{Q} 30'44	4.42974 AU	min. Earth dist.	313 Jul 30 j 22:20	7° \approx 04'02	4.00650 AU
direct	308 Apr 17 j 14:46	21° \mathcal{Q} 31'30		direct	313 Sep 27 j 23:10	2° \approx 10'11	
	308 Jul 08 j 06:04	0° \mathcal{M}			314 Jan 02 j 11:39	15° \approx	
evening set	308 Aug 22 j 14:16	9° \mathcal{M} 09'04		evening set	314 Jan 30 j 23:36	21° \approx 38'10	
max. Earth dist.	308 Sep 03 j 07:40	11° \mathcal{M} 41'21	6.43976 AU				
conjunction	308 Sep 04 j 13:59	11° \mathcal{M} 57'48	1°09'29	conjunction	314 Feb 13 j 01:38	24° \approx 47'20	-1°-1'-23
minimum elong	308 Sep 04 j 13:58	11° \mathcal{M} 57'48	1°09'28	minimum elong	314 Feb 13 j 01:36	24° \approx 47'19	1°01'24
morning rise	308 Sep 17 j 10:48	14° \mathcal{M} 45'08		max. Earth dist.	314 Feb 13 j 19:08	24° \approx 57'53	5.97580 AU
	308 Dec 14 j 15:53	0° \mathcal{A}		morning rise	314 Feb 26 j 06:45	27° \approx 58'12	
retrograde	309 Jan 15 j 13:59	1° \mathcal{A} 33'31			314 Mar 06 j 19:25	0° \mathcal{H}	
	309 Feb 16 j 13:30	30° $\mathcal{R}\mathcal{M}$		retrograde	314 Jul 08 j 13:54	18° \mathcal{H} 31'37	
opposition	309 Mar 17 j 03:31	26° \mathcal{M} 40'55	1°42'42	opposition	314 Sep 06 j 13:51	13° \mathcal{H} 29'12	-1°-43'-25
min. Earth dist.	309 Mar 18 j 07:06	26° \mathcal{M} 32'04	4.43358 AU	min. Earth dist.	314 Sep 05 j 15:08	13° \mathcal{H} 36'50	3.96702 AU
direct	309 May 18 j 21:32	21° \mathcal{M} 38'51		direct	314 Nov 03 j 14:26	8° \mathcal{H} 35'16	
	309 Aug 07 j 17:36	0° \mathcal{A}		evening set	315 Mar 09 j 00:11	28° \mathcal{H} 11'51	
evening set	309 Sep 22 j 09:27	9° \mathcal{A} 17'35			315 Mar 16 j 13:13	0° \mathcal{Y}	
max. Earth dist.	309 Oct 03 j 05:28	11° \mathcal{A} 39'58	6.40790 AU	conjunction	315 Mar 22 j 10:07	1° \mathcal{Y} 24'26	-1°-9'-5
				minimum elong	315 Mar 22 j 10:08	1° \mathcal{Y} 24'27	1°09'06
conjunction	309 Oct 05 j 03:20	12° \mathcal{A} 05'09	1°07'09	max. Earth dist.	315 Mar 24 j 06:22	1° \mathcal{Y} 50'57	5.97831 AU
minimum elong	309 Oct 05 j 03:21	12° \mathcal{A} 05'10	1°07'09	morning rise	315 Apr 04 j 23:12	4° \mathcal{Y} 38'36	
morning rise	309 Oct 17 j 18:48	14° \mathcal{A} 51'41		retrograde	315 Aug 14 j 18:29	25° \mathcal{Y} 02'35	
	310 Jan 10 j 19:14	0° \mathcal{M}		min. Earth dist.	315 Oct 12 j 01:28	20° \mathcal{Y} 08'48	4.01199 AU
retrograde	310 Feb 15 j 20:55	1° \mathcal{M} 57'57		opposition	315 Oct 13 j 10:21	19° \mathcal{Y} 57'35	-1°-33'-31
	310 Mar 24 j 06:21	30° $\mathcal{R}\mathcal{A}$		direct	315 Dec 10 j 10:23	15° \mathcal{Y} 01'10	
opposition	310 Apr 17 j 17:35	27° \mathcal{A} 06'11	1°25'55		316 Mar 26 j 08:10	0° \mathcal{B}	
min. Earth dist.	310 Apr 19 j 04:17	26° \mathcal{A} 55'08	4.36828 AU	evening set	316 Apr 14 j 08:58	4° \mathcal{B} 21'43	
direct	310 Jun 19 j 06:38	22° \mathcal{A} 06'03					
	310 Sep 04 j 18:17	0° \mathcal{M}		conjunction	316 Apr 28 j 01:36	7° \mathcal{B} 33'33	0°-50'-6
evening set	310 Oct 23 j 05:30	10° \mathcal{M} 01'18		minimum elong	316 Apr 28 j 01:39	7° \mathcal{B} 33'35	0°50'06
max. Earth dist.	310 Nov 02 j 20:53	12° \mathcal{M} 24'31	6.31394 AU	max. Earth dist.	316 Apr 30 j 08:00	8° \mathcal{B} 05'21	6.06087 AU



































































































morning rise	316 May 11 j 20:04	10°♄46'09		conjunction	321 Oct 09 j 10:08	16°♄28'34	1°05'14
	316 May 30 j 09:43	15°♄		minimum elong	321 Oct 09 j 10:09	16°♄28'35	1°05'14
	316 Sep 04 j 06:34	0°♄		morning rise	321 Oct 22 j 01:12	19°♄15'26	
retrograde	316 Sep 17 j 22:00	0°♄18'25			321 Dec 14 j 10:25	0°♄	
	316 Oct 01 j 11:15	30°♄		retrograde	322 Feb 20 j 10:48	6°♄27'05	
min. Earth dist.	316 Nov 15 j 03:41	25°♄24'32	4.12247 AU	opposition	322 Apr 22 j 07:16	1°♄35'20	1°21'19
opposition	316 Nov 16 j 11:22	25°♄13'45	0°-49'-3	min. Earth dist.	322 Apr 23 j 18:56	1°♄23'59	4.35244 AU
direct	317 Jan 14 j 05:20	20°♄14'17			322 May 04 j 23:48	30°♄	
	317 Apr 08 j 14:26	0°♄		direct	322 Jun 23 j 19:06	26°♄35'32	
evening set	317 May 20 j 19:09	9°♄02'50			322 Aug 11 j 16:55	0°♄	
				evening set	322 Oct 27 j 15:19	14°♄34'43	
conjunction	317 Jun 03 j 13:22	12°♄09'41	0°-13'-42		322 Oct 29 j 12:23	15°♄	
minimum elong	317 Jun 03 j 13:23	12°♄09'42	0°13'42	max. Earth dist.	322 Nov 07 j 06:36	16°♄58'32	6.29581 AU
behind sun begin	317 Jun 03 j 09:07	12°♄07'18					
behind sun end	317 Jun 03 j 17:38	12°♄12'06		conjunction	322 Nov 09 j 06:32	17°♄25'38	0°41'38
max. Earth dist.	317 Jun 05 j 06:47	12°♄33'09	6.18986 AU	minimum elong	322 Nov 09 j 06:34	17°♄25'39	0°41'38
morning rise	317 Jun 17 j 07:46	15°♄16'17		morning rise	322 Nov 21 j 20:41	20°♄16'14	
	317 Sep 01 j 10:20	0°♄			323 Jan 07 j 01:38	0°♄	
asc. node	317 Oct 16 j 18:55	3°♄40'16		retrograde	323 Mar 25 j 19:31	8°♄14'13	
retrograde	317 Oct 20 j 19:46	3°♄41'54		opposition	323 May 25 j 18:30	3°♄21'26	0°35'47
	317 Dec 09 j 11:17	30°♄		min. Earth dist.	323 May 27 j 01:10	3°♄11'38	4.23153 AU
opposition	317 Dec 19 j 11:52	28°♄39'56	0°09'25		323 Jun 23 j 16:49	30°♄	
min. Earth dist.	317 Dec 18 j 16:13	28°♄46'33	4.25662 AU	direct	323 Jul 26 j 07:11	28°♄24'15	
direct	318 Feb 17 j 12:59	23°♄38'00			323 Aug 27 j 16:37	0°♄	
	318 Apr 26 j 02:26	0°♄		evening set	323 Nov 28 j 14:48	16°♄53'14	
evening set	318 Jun 24 j 12:03	11°♄52'40		max. Earth dist.	323 Dec 09 j 21:19	19°♄30'16	6.16435 AU
conjunction	318 Jul 08 j 02:26	14°♄52'19	0°25'45	conjunction	323 Dec 11 j 07:16	19°♄50'02	0°04'32
minimum elong	318 Jul 08 j 02:24	14°♄52'18	0°25'45	minimum elong	323 Dec 11 j 07:15	19°♄50'02	0°04'32
max. Earth dist.	318 Jul 08 j 20:44	15°♄02'25	6.31906 AU	behind sun begin	323 Dec 10 j 23:25	19°♄45'29	
morning rise	318 Jul 21 j 14:47	17°♄50'50		behind sun end	323 Dec 11 j 15:05	19°♄54'34	
	318 Sep 21 j 08:54	0°♄		morning rise	323 Dec 24 j 00:01	22°♄47'18	
retrograde	318 Nov 21 j 00:26	5°♄19'58		desc. node	324 Jan 23 j 15:12	29°♄38'54	
opposition	319 Jan 19 j 22:50	0°♄21'52	1°01'46		324 Jan 25 j 07:01	0°♄	
min. Earth dist.	319 Jan 19 j 19:45	0°♄22'53	4.37071 AU	retrograde	324 Apr 29 j 11:45	11°♄48'16	
	319 Jan 22 j 17:04	30°♄		opposition	324 Jun 29 j 04:53	6°♄52'57	0°-24'-14
direct	319 Mar 22 j 06:50	25°♄18'46		min. Earth dist.	324 Jun 29 j 21:47	6°♄47'29	4.09858 AU
	319 May 19 j 09:50	0°♄		direct	324 Aug 28 j 09:36	1°♄58'15	
evening set	319 Jul 27 j 09:57	13°♄08'09		evening set	324 Dec 31 j 08:35	21°♄01'30	
	319 Aug 05 j 00:27	15°♄					
				conjunction	325 Jan 13 j 05:04	24°♄05'17	0°-35'-43
conjunction	319 Aug 09 j 16:32	16°♄00'55	0°56'08	minimum elong	325 Jan 13 j 05:02	24°♄05'16	0°35'44
minimum elong	319 Aug 09 j 16:29	16°♄00'54	0°56'08	max. Earth dist.	325 Jan 12 j 19:23	23°♄59'30	6.04196 AU
max. Earth dist.	319 Aug 09 j 05:39	15°♄55'00	6.40916 AU	morning rise	325 Jan 26 j 03:38	27°♄10'20	
morning rise	319 Aug 22 j 20:25	18°♄52'15			325 Feb 07 j 04:21	0°♄	
	319 Oct 18 j 11:54	0°♄			325 Apr 28 j 23:52	15°♄	
retrograde	319 Dec 21 j 09:50	5°♄48'12		retrograde	325 Jun 05 j 20:13	17°♄12'26	
opposition	320 Feb 19 j 15:45	0°♄53'35	1°34'51		325 Jul 13 j 20:26	15°♄	
min. Earth dist.	320 Feb 20 j 07:02	0°♄48'37	4.43223 AU	opposition	325 Aug 05 j 05:37	12°♄13'21	-1°-18'-54
	320 Feb 26 j 13:30	30°♄		min. Earth dist.	325 Aug 05 j 00:10	12°♄15'09	3.99868 AU
direct	320 Apr 22 j 00:02	25°♄50'31		direct	325 Oct 03 j 00:23	7°♄19'57	
	320 Jun 15 j 23:36	0°♄			325 Dec 13 j 16:28	15°♄	
evening set	320 Aug 26 j 21:50	13°♄28'12		evening set	326 Feb 05 j 01:52	26°♄49'33	
conjunction	320 Sep 08 j 20:46	16°♄16'42	1°10'18	conjunction	326 Feb 18 j 04:55	29°♄59'15	-1°-4'-4
minimum elong	320 Sep 08 j 20:45	16°♄16'41	1°10'18	minimum elong	326 Feb 18 j 04:53	29°♄59'14	1°04'05
max. Earth dist.	320 Sep 07 j 12:07	15°♄58'57	6.43680 AU		326 Feb 18 j 06:09	0°♄	
morning rise	320 Sep 21 j 16:36	19°♄03'47		max. Earth dist.	326 Feb 19 j 03:03	0°♄12'37	5.97341 AU
	320 Nov 16 j 04:52	0°♄		morning rise	326 Mar 03 j 10:59	3°♄10'38	
retrograde	321 Jan 19 j 20:23	5°♄53'54		retrograde	326 Jul 13 j 20:25	23°♄44'50	
opposition	321 Mar 21 j 11:42	1°♄01'29	1°42'00	opposition	326 Sep 11 j 18:38	18°♄41'54	-1°-44'-32
min. Earth dist.	321 Mar 22 j 15:54	0°♄52'27	4.42568 AU	min. Earth dist.	326 Sep 10 j 18:37	18°♄50'00	3.97039 AU
	321 Mar 29 j 13:02	30°♄		direct	326 Nov 08 j 19:05	13°♄47'40	
direct	321 May 23 j 04:42	25°♄59'38			327 Feb 27 j 20:06	0°♄	
	321 Jul 16 j 02:55	0°♄		evening set	327 Mar 14 j 04:43	3°♄22'38	
evening set	321 Sep 26 j 16:48	13°♄40'44					
max. Earth dist.	321 Oct 07 j 11:47	16°♄03'01	6.39567 AU	conjunction	327 Mar 27 j 15:46	6°♄35'19	-1°-7'-55

minimum elong	327 Mar 27 j 15:48	6°Υ35'20	1°07'57	conjunction	332 Sep 13 j 04:24	20°♎38'39	1°10'45
max. Earth dist.	327 Mar 29 j 15:13	7°Υ03'39	5.98706 AU	minimum elong	332 Sep 13 j 04:24	20°♎38'39	1°10'45
morning rise	327 Apr 10 j 05:45	9°Υ49'27		morning rise	332 Sep 25 j 23:33	23°♎25'34	
	327 Aug 10 j 23:09	0°♄			332 Oct 27 j 11:33	0°♊	
retrograde	327 Aug 19 j 18:28	0°♄07'42		retrograde	333 Jan 24 j 06:46	10°♊17'39	
	327 Aug 28 j 12:46	30°♋Υ		opposition	333 Mar 25 j 21:51	5°♊25'31	1°40'44
min. Earth dist.	327 Oct 17 j 00:04	25°Υ14'02	4.02525 AU	min. Earth dist.	333 Mar 27 j 04:05	5°♊15'50	4.41835 AU
opposition	327 Oct 18 j 09:33	25°Υ02'38	-1°-29'00	direct	333 May 27 j 15:42	0°♊23'58	
direct	327 Dec 15 j 10:08	20°Υ05'50		evening set	333 Oct 01 j 01:03	18°♊06'59	
	328 Mar 07 j 23:17	0°♄		max. Earth dist.	333 Oct 11 j 19:31	20°♊29'22	6.38506 AU
evening set	328 Apr 19 j 11:44	9°♄22'19					
conjunction	328 May 03 j 04:47	12°♄33'39	0°-45'-46	conjunction	333 Oct 13 j 17:59	20°♊55'04	1°02'57
minimum elong	328 May 03 j 04:50	12°♄33'40	0°45'47	minimum elong	333 Oct 13 j 18:01	20°♊55'05	1°02'56
max. Earth dist.	328 May 05 j 08:48	13°♄03'55	6.07731 AU	morning rise	333 Oct 26 j 08:38	23°♊42'13	
	328 May 13 j 16:46	15°♄			333 Nov 24 j 22:42	0°♋	
morning rise	328 May 16 j 23:46	15°♄45'39		retrograde	334 Feb 24 j 23:48	10°♋58'44	
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opposition	328 Nov 21 j 03:43	0°♌04'34	0°-41'-16		334 Oct 13 j 04:46	15°♋	
	328 Nov 21 j 17:08	30°♋♄		evening set	334 Nov 01 j 01:36	19°♋09'42	
direct	329 Jan 19 j 01:49	25°♄04'41		max. Earth dist.	334 Nov 11 j 19:06	21°♋35'16	6.28154 AU
	329 Mar 17 j 12:25	0°♌		conjunction	334 Nov 13 j 16:43	22°♋01'09	0°37'03
evening set	329 May 25 j 16:46	13°♌48'38		minimum elong	334 Nov 13 j 16:45	22°♋01'11	0°37'04
conjunction	329 Jun 08 j 10:57	16°♌54'39	0°-8'-6	morning rise	334 Nov 26 j 06:57	24°♋52'24	
minimum elong	329 Jun 08 j 10:57	16°♌54'39	0°08'06		334 Dec 19 j 12:42	0°♌	
behind sun begin	329 Jun 08 j 03:34	16°♌50'30		retrograde	335 Mar 30 j 16:50	12°♌57'14	
behind sun end	329 Jun 08 j 18:20	16°♌58'48		opposition	335 May 30 j 14:47	8°♌04'14	0°27'55
max. Earth dist.	329 Jun 10 j 02:27	17°♌16'56	6.20773 AU	min. Earth dist.	335 May 31 j 20:37	7°♌54'41	4.21682 AU
morning rise	329 Jun 22 j 04:40	20°♌00'13		direct	335 Jul 31 j 00:36	3°♌07'27	
	329 Aug 08 j 22:31	0°♍		evening set	335 Dec 03 j 04:46	21°♌39'34	
asc. node	329 Aug 27 j 02:30	3°♍08'51		desc. node	335 Dec 04 j 04:24	21°♌53'16	
retrograde	329 Oct 25 j 06:27	8°♍17'32		conjunction	335 Dec 15 j 21:29	24°♌37'03	0°-1'-14
opposition	329 Dec 23 j 22:30	3°♍16'09	0°17'27	minimum elong	335 Dec 15 j 21:30	24°♌37'04	0°01'15
min. Earth dist.	329 Dec 23 j 05:02	3°♍22'01	4.27294 AU	behind sun begin	335 Dec 15 j 13:29	24°♌32'25	
	330 Jan 19 j 13:44	30°♋♌		behind sun end	335 Dec 16 j 05:31	24°♌41'44	
direct	330 Feb 22 j 03:48	28°♌14'01		max. Earth dist.	335 Dec 14 j 13:42	24°♌18'30	6.15052 AU
	330 Mar 28 j 03:58	0°♍		morning rise	335 Dec 28 j 14:55	27°♌35'11	
evening set	330 Jun 29 j 04:16	16°♍25'09			336 Jan 08 j 02:17	0°♎	
conjunction	330 Jul 12 j 17:37	19°♍23'52	0°30'44	retrograde	336 May 04 j 11:25	16°♎43'22	
minimum elong	330 Jul 12 j 17:35	19°♍23'50	0°30'44	opposition	336 Jul 04 j 05:39	11°♎47'33	0°-32'-35
max. Earth dist.	330 Jul 13 j 06:35	19°♍30'59	6.33248 AU	min. Earth dist.	336 Jul 04 j 18:49	11°♎43'17	4.08682 AU
morning rise	330 Jul 26 j 05:05	22°♍21'24		direct	336 Sep 02 j 05:06	6°♎53'08	
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retrograde	330 Nov 25 j 07:33	9°♏45'13		conjunction	337 Jan 18 j 00:42	29°♎03'20	0°-40'-37
opposition	331 Jan 24 j 06:14	4°♏47'40	1°07'45	minimum elong	337 Jan 18 j 00:40	29°♎03'19	0°40'38
min. Earth dist.	331 Jan 24 j 06:09	4°♏47'42	4.38052 AU	max. Earth dist.	337 Jan 17 j 19:28	29°♎00'13	6.03327 AU
	331 Mar 13 j 20:48	30°♋♍			337 Jan 21 j 23:26	0°♏	
direct	331 Mar 26 j 18:05	29°♍44'29		morning rise	337 Jan 31 j 00:00	2°♏09'06	
	331 Apr 08 j 17:12	0°♏			337 Mar 31 j 08:29	15°♏	
	331 Jul 20 j 00:03	15°♏		retrograde	337 Jun 11 j 00:34	22°♏16'02	
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conjunction	331 Aug 14 j 03:00	20°♏24'27	0°59'12	min. Earth dist.	337 Aug 10 j 01:02	17°♏18'48	3.99397 AU
minimum elong	331 Aug 14 j 02:57	20°♏24'26	0°59'11		337 Aug 28 j 05:34	15°♏	
max. Earth dist.	331 Aug 13 j 13:59	20°♏17'23	6.41467 AU	direct	337 Oct 08 j 01:27	12°♏22'59	
morning rise	331 Aug 27 j 05:34	23°♏15'04			337 Nov 17 j 03:12	15°♏	
	331 Sep 28 j 17:03	0°♐		evening set	338 Feb 02 j 02:59	0°♐	
retrograde	331 Dec 25 j 15:32	10°♐09'24			338 Feb 10 j 01:09	1°♐53'19	
opposition	332 Feb 23 j 23:00	5°♐15'14	1°37'30	conjunction	338 Feb 23 j 05:13	5°♐03'29	-1°-6'-10
min. Earth dist.	332 Feb 24 j 15:38	5°♐09'51	4.43338 AU	minimum elong	338 Feb 23 j 05:11	5°♐03'28	1°06'11
direct	332 Apr 26 j 08:14	0°♐12'24		max. Earth dist.	338 Feb 24 j 07:10	5°♐19'07	5.97303 AU
evening set	332 Aug 31 j 06:32	17°♐50'24		morning rise	338 Mar 08 j 12:19	8°♐15'20	
max. Earth dist.	332 Sep 11 j 16:37	20°♐19'09	6.43349 AU	retrograde	338 Jul 18 j 21:59	28°♐49'14	




































































































































opposition	338 Sep 16 j 19:03	23° ✕ 45'57	-1°-44'-48	direct	344 Apr 30 j 17:28	4° Ⓜ 32'42	
min. Earth dist.	338 Sep 15 j 17:23	23° ✕ 54'36	3.97468 AU	evening set	344 Sep 04 j 14:20	22° Ⓜ 10'31	
direct	338 Nov 13 j 17:39	18° ✕ 51'27		max. Earth dist.	344 Sep 15 j 23:17	24° Ⓜ 38'46	6.43095 AU
	339 Feb 10 j 06:39	0° γ					
evening set	339 Mar 19 j 05:48	8° γ 24'53		conjunction	344 Sep 17 j 11:29	24° Ⓜ 58'31	1°10'48
				minimum elong	344 Sep 17 j 11:29	24° Ⓜ 58'31	1°10'48
conjunction	339 Apr 01 j 17:42	11° γ 37'35	-1°-6'-19	morning rise	344 Sep 30 j 05:37	27° Ⓜ 45'10	
minimum elong	339 Apr 01 j 17:44	11° γ 37'36	1°06'19		344 Oct 10 j 16:33	0° ♎	
max. Earth dist.	339 Apr 03 j 16:51	12° γ 05'40	5.99537 AU	retrograde	345 Jan 28 j 13:55	14° ♎ 38'42	
morning rise	339 Apr 15 j 08:44	14° γ 51'46		opposition	345 Mar 30 j 07:02	9° ♎ 46'38	1°38'54
	339 Jun 27 j 06:32	0° ♄		min. Earth dist.	345 Mar 31 j 13:30	9° ♎ 36'55	4.41197 AU
retrograde	339 Aug 24 j 13:39	5° ♄ 04'42		direct	345 Jun 01 j 00:00	4° ♎ 45'20	
min. Earth dist.	339 Oct 21 j 19:28	0° ♄ 10'59	4.03663 AU	evening set	345 Oct 05 j 08:08	22° ♎ 29'42	
opposition	339 Oct 23 j 04:57	29° γ 59'33	-1°-24'-1	max. Earth dist.	345 Oct 16 j 00:44	24° ♎ 51'29	6.37498 AU
	339 Oct 23 j 03:39	30° ♁					
direct	339 Dec 20 j 07:42	25° γ 02'18		conjunction	345 Oct 18 j 00:27	25° ♎ 17'57	1°00'19
	340 Feb 15 j 00:04	0° ♄		minimum elong	345 Oct 18 j 00:29	25° ♎ 17'58	1°00'19
evening set	340 Apr 24 j 11:12	14° ♄ 15'42		morning rise	345 Oct 30 j 14:54	28° ♎ 05'24	
	340 Apr 27 j 15:55	15° ♄			345 Nov 08 j 08:04	0° ♎	
conjunction	340 May 08 j 04:57	17° ♄ 26'40	0°-41'-16	retrograde	346 Feb 12 j 15:05	15° ♎	
minimum elong	340 May 08 j 05:00	17° ♄ 26'42	0°41'16		346 Mar 01 j 14:07	15° ♎ 26'43	
max. Earth dist.	340 May 10 j 08:40	17° ♄ 56'40	6.09102 AU	opposition	346 Mar 18 j 11:49	15° ♁	
morning rise	340 May 22 j 00:01	20° ♄ 38'07		min. Earth dist.	346 May 01 j 11:36	10° ♎ 34'51	1°10'44
	340 Jul 04 j 00:40	0° ♁		direct	346 May 02 j 22:42	10° ♎ 23'40	4.32580 AU
retrograde	340 Sep 27 j 04:58	9° ♁ 53'47			346 Jul 02 j 18:48	5° ♎ 35'44	
opposition	340 Nov 25 j 17:28	4° ♁ 49'42	0°-33'-28	evening set	346 Sep 25 j 16:14	15° ♎	
min. Earth dist.	340 Nov 24 j 13:03	4° ♁ 59'22	4.15483 AU	max. Earth dist.	346 Nov 05 j 10:26	23° ♎ 40'55	
	341 Jan 13 j 13:03	30° ♁			346 Nov 16 j 04:55	26° ♎ 07'34	6.26547 AU
direct	341 Jan 23 j 19:20	29° ♄ 49'28		conjunction	346 Nov 18 j 01:40	26° ♎ 33'03	0°32'16
	341 Feb 03 j 02:14	0° ♁		minimum elong	346 Nov 18 j 01:42	26° ♎ 33'04	0°32'16
evening set	341 May 30 j 12:39	18° ♁ 30'04		morning rise	346 Nov 30 j 16:05	29° ♎ 25'03	
					346 Dec 03 j 05:54	0° ♄	
conjunction	341 Jun 13 j 06:28	21° ♁ 35'20	0°-2'-36	retrograde	347 Apr 04 j 11:26	17° ♄ 37'35	
minimum elong	341 Jun 13 j 06:27	21° ♁ 35'19	0°02'37	opposition	347 Jun 04 j 10:09	12° ♄ 44'15	0°19'52
behind sun begin	341 Jun 12 j 22:06	21° ♁ 30'39		min. Earth dist.	347 Jun 05 j 13:38	12° ♄ 35'28	4.19925 AU
behind sun end	341 Jun 13 j 14:48	21° ♁ 39'59		direct	347 Aug 04 j 14:45	7° ♄ 47'51	
max. Earth dist.	341 Jun 14 j 18:10	21° ♁ 55'24	6.22210 AU	desc. node	347 Oct 14 j 12:33	14° ♄ 52'33	
morning rise	341 Jun 26 j 23:48	24° ♁ 40'04		evening set	347 Dec 07 j 18:40	26° ♄ 24'25	
asc. node	341 Jul 08 j 11:06	27° ♁ 12'13		max. Earth dist.	347 Dec 19 j 06:58	29° ♄ 05'56	6.13293 AU
	341 Jul 21 j 11:41	0° ♄					
retrograde	341 Oct 29 j 14:48	12° ♄ 50'22		conjunction	347 Dec 20 j 11:48	29° ♄ 22'50	0°-6'-58
opposition	341 Dec 28 j 07:41	7° ♄ 49'26	0°25'10	minimum elong	347 Dec 20 j 11:47	29° ♄ 22'50	0°06'58
min. Earth dist.	341 Dec 27 j 15:58	7° ♄ 54'42	4.28607 AU	behind sun begin	347 Dec 20 j 04:20	29° ♄ 18'29	
direct	342 Feb 26 j 16:19	2° ♄ 47'02		behind sun end	347 Dec 20 j 19:13	29° ♄ 27'11	
evening set	342 Jul 03 j 19:19	20° ♄ 55'36			347 Dec 23 j 03:08	0° ♄	
				morning rise	348 Jan 02 j 05:50	2° ♄ 21'58	
conjunction	342 Jul 17 j 07:52	23° ♄ 53'29	0°35'26	retrograde	348 May 09 j 14:36	21° ♄ 39'02	
minimum elong	342 Jul 17 j 07:50	23° ♄ 53'28	0°35'27	opposition	348 Jul 09 j 06:52	16° ♄ 42'45	0°-40'-50
max. Earth dist.	342 Jul 17 j 18:10	23° ♄ 59'08	6.34358 AU	min. Earth dist.	348 Jul 09 j 18:20	16° ♄ 39'02	4.07056 AU
morning rise	342 Jul 30 j 18:08	26° ♄ 50'06		direct	348 Sep 07 j 02:47	11° ♄ 48'32	
	342 Aug 14 j 11:00	0° ♁			349 Jan 05 j 20:50	0° ♁	
retrograde	342 Nov 29 j 14:16	14° ♁ 09'16		evening set	349 Jan 09 j 23:58	0° ♁ 58'50	
opposition	343 Jan 28 j 13:21	9° ♁ 12'13	1°13'15				
min. Earth dist.	343 Jan 28 j 15:24	9° ♁ 11'33	4.38893 AU	conjunction	349 Jan 22 j 22:00	4° ♁ 04'14	0°-45'-19
direct	343 Mar 31 j 04:31	4° ♁ 09'01		minimum elong	349 Jan 22 j 21:58	4° ♁ 04'13	0°45'20
	343 Jul 02 j 22:48	15° ♁		max. Earth dist.	349 Jan 22 j 20:47	4° ♁ 03'30	6.01984 AU
evening set	343 Aug 05 j 08:07	21° ♁ 55'16		morning rise	349 Feb 04 j 22:19	7° ♁ 11'03	
					349 Mar 11 j 00:54	15° ♁	
conjunction	343 Aug 18 j 12:33	24° ♁ 46'44	1°01'52	retrograde	349 Jun 16 j 07:15	27° ♁ 24'35	
minimum elong	343 Aug 18 j 12:31	24° ♁ 46'43	1°01'52	opposition	349 Aug 15 j 12:50	22° ♁ 24'30	-1°-29'-36
max. Earth dist.	343 Aug 17 j 19:25	24° ♁ 37'25	6.41959 AU	min. Earth dist.	349 Aug 15 j 02:39	22° ♁ 27'53	3.98506 AU
morning rise	343 Aug 31 j 14:08	27° ♁ 36'43		direct	349 Oct 13 j 01:29	17° ♁ 31'05	
	343 Sep 11 j 18:02	0° ♁			350 Jan 15 j 17:22	0° ♁	
retrograde	343 Dec 29 j 22:00	14° ♁ 29'24		evening set	350 Feb 15 j 03:42	7° ♁ 04'00	
opposition	344 Feb 28 j 06:09	9° ♁ 35'30	1°39'33				
min. Earth dist.	344 Feb 29 j 00:59	9° ♁ 29'25	4.43472 AU	conjunction	350 Feb 28 j 08:45	10° ♁ 14'49	-1°-7'-50

minimum elong	350 Feb 28 j 08:44	10° Υ 14'48	1°07'51	morning rise	355 Sep 04 j 20:22	1° \mathfrak{M} 54'14	
max. Earth dist.	350 Mar 01 j 13:09	10° Υ 31'57	5.96920 AU	retrograde	356 Jan 03 j 01:06	18° \mathfrak{M} 43'44	
morning rise	350 Mar 13 j 17:08	13° Υ 27'22		opposition	356 Mar 03 j 10:56	13° \mathfrak{M} 50'12	1°40'58
	350 Jun 02 j 11:51	0° Υ		min. Earth dist.	356 Mar 04 j 07:55	13° \mathfrak{M} 43'26	4.44058 AU
retrograde	350 Jul 24 j 02:16	4° Υ 02'16		direct	356 May 05 j 00:47	8° \mathfrak{M} 47'32	
	350 Sep 14 j 08:11	30° \mathfrak{R}		evening set	356 Sep 08 j 18:36	26° \mathfrak{M} 23'42	
opposition	350 Sep 21 j 22:50	28° Υ 58'35	-1°-44'-18	max. Earth dist.	356 Sep 19 j 22:31	28° \mathfrak{M} 49'22	6.43121 AU
min. Earth dist.	350 Sep 20 j 19:11	29° Υ 07'56	3.97649 AU				
direct	350 Nov 18 j 20:18	24° Υ 03'49		conjunction	356 Sep 21 j 14:43	29° \mathfrak{M} 11'18	1°10'26
	351 Jan 19 j 18:09	0° Υ		minimum elong	356 Sep 21 j 14:44	29° \mathfrak{M} 11'18	1°10'25
evening set	351 Mar 24 j 11:10	13° Υ 36'42			356 Sep 25 j 08:00	0° \mathfrak{L}	
				morning rise	356 Oct 04 j 08:14	1° \mathfrak{L} 57'40	
conjunction	351 Apr 07 j 00:18	16° Υ 49'36	-1°-4'-7	retrograde	357 Feb 01 j 19:41	18° \mathfrak{L} 52'16	
minimum elong	351 Apr 07 j 00:20	16° Υ 49'38	1°04'08	opposition	357 Apr 03 j 13:17	14° \mathfrak{L} 00'16	1°36'33
max. Earth dist.	351 Apr 09 j 02:42	17° Υ 19'34	6.00280 AU	min. Earth dist.	357 Apr 04 j 21:45	13° \mathfrak{L} 49'54	4.40648 AU
morning rise	351 Apr 20 j 16:04	20° Υ 03'48		direct	357 Jun 05 j 06:34	8° \mathfrak{L} 59'06	
	351 Jun 04 j 07:44	0° \mathfrak{B}		evening set	357 Oct 09 j 11:18	26° \mathfrak{L} 44'40	
retrograde	351 Aug 29 j 15:08	10° \mathfrak{B} 11'20		max. Earth dist.	357 Oct 20 j 03:20	29° \mathfrak{L} 06'28	6.36408 AU
min. Earth dist.	351 Oct 26 j 19:04	5° \mathfrak{B} 17'31	4.04887 AU				
opposition	351 Oct 28 j 04:07	5° \mathfrak{B} 06'15	-1°-18'-15	conjunction	357 Oct 22 j 03:24	29° \mathfrak{L} 33'12	0°57'25
direct	351 Dec 25 j 09:23	0° \mathfrak{B} 08'39		minimum elong	357 Oct 22 j 03:26	29° \mathfrak{L} 33'14	0°57'26
	352 Apr 10 j 14:09	15° \mathfrak{B}			357 Oct 24 j 03:34	0° \mathfrak{M}	
evening set	352 Apr 29 j 15:04	19° \mathfrak{B} 18'36		morning rise	357 Nov 03 j 17:28	2° \mathfrak{M} 20'59	
					358 Jan 07 j 04:22	15° \mathfrak{M}	
conjunction	352 May 13 j 09:07	22° \mathfrak{B} 29'03	0°-36'-18	retrograde	358 Mar 05 j 23:17	19° \mathfrak{M} 47'41	
minimum elong	352 May 13 j 09:10	22° \mathfrak{B} 29'04	0°36'18	opposition	358 May 05 j 22:03	14° \mathfrak{M} 55'41	1°04'59
max. Earth dist.	352 May 15 j 11:56	22° \mathfrak{B} 58'24	6.10719 AU		358 May 05 j 08:30	15° \mathfrak{R} \mathfrak{M}	
morning rise	352 May 27 j 04:29	25° \mathfrak{B} 39'51		min. Earth dist.	358 May 07 j 08:57	14° \mathfrak{M} 44'35	4.30997 AU
	352 Jun 15 j 10:57	0° \mathfrak{I}		direct	358 Jul 07 j 01:46	9° \mathfrak{M} 56'53	
retrograde	352 Oct 01 j 20:36	14° \mathfrak{I} 46'34			358 Sep 05 j 02:42	15° \mathfrak{M}	
min. Earth dist.	352 Nov 29 j 05:59	9° \mathfrak{I} 52'25	4.17350 AU	evening set	358 Nov 09 j 16:43	28° \mathfrak{M} 06'11	
opposition	352 Nov 30 j 10:13	9° \mathfrak{I} 42'50	0°-25'-12		358 Nov 18 j 00:35	0° \mathfrak{J}	
direct	353 Jan 28 j 15:07	4° \mathfrak{I} 42'18		max. Earth dist.	358 Nov 20 j 10:59	0° \mathfrak{J} 33'24	6.24589 AU
asc. node	353 May 18 j 07:04	19° \mathfrak{I} 31'39					
evening set	353 Jun 04 j 10:57	23° \mathfrak{I} 17'54		conjunction	358 Nov 22 j 07:56	0° \mathfrak{J} 59'07	0°27'26
				minimum elong	358 Nov 22 j 07:57	0° \mathfrak{J} 59'08	0°27'25
conjunction	353 Jun 18 j 04:19	26° \mathfrak{I} 22'06	0°03'11	morning rise	358 Dec 04 j 22:46	3° \mathfrak{J} 52'05	
minimum elong	353 Jun 18 j 04:17	26° \mathfrak{I} 22'06	0°03'10	retrograde	359 Apr 09 j 06:42	22° \mathfrak{J} 13'55	
behind sun begin	353 Jun 17 j 20:00	26° \mathfrak{I} 17'28		opposition	359 Jun 09 j 03:47	17° \mathfrak{J} 20'15	0°11'51
behind sun end	353 Jun 18 j 12:35	26° \mathfrak{I} 26'43		min. Earth dist.	359 Jun 10 j 06:47	17° \mathfrak{J} 11'35	4.17698 AU
max. Earth dist.	353 Jun 19 j 13:33	26° \mathfrak{I} 40'44	6.24215 AU	direct	359 Aug 09 j 04:48	12° \mathfrak{J} 24'04	
morning rise	353 Jul 01 j 20:49	29° \mathfrak{I} 25'37		desc. node	359 Aug 26 j 05:48	12° \mathfrak{J} 51'41	
	353 Jul 04 j 10:50	0° \mathfrak{E}			359 Dec 07 j 12:15	0° \mathfrak{Z}	
retrograde	353 Nov 03 j 01:39	17° \mathfrak{E} 26'56		evening set	359 Dec 12 j 07:17	1° \mathfrak{Z} 06'59	
opposition	354 Jan 01 j 18:37	12° \mathfrak{E} 26'32	0°32'49	max. Earth dist.	359 Dec 23 j 23:07	3° \mathfrak{Z} 51'20	6.11003 AU
min. Earth dist.	354 Jan 01 j 05:25	12° \mathfrak{E} 30'57	4.30576 AU				
direct	354 Mar 03 j 08:40	7° \mathfrak{E} 24'00		conjunction	359 Dec 25 j 01:08	4° \mathfrak{Z} 06'39	0°-12'-30
evening set	354 Jul 08 j 10:36	25° \mathfrak{E} 27'28		minimum elong	359 Dec 25 j 01:07	4° \mathfrak{Z} 06'39	0°12'31
				behind sun begin	359 Dec 24 j 19:49	4° \mathfrak{Z} 03'32	
conjunction	354 Jul 21 j 22:01	28° \mathfrak{E} 24'09	0°39'57	behind sun end	359 Dec 25 j 06:25	4° \mathfrak{Z} 09'45	
minimum elong	354 Jul 21 j 21:59	28° \mathfrak{E} 24'08	0°39'57	morning rise	360 Jan 06 j 19:57	7° \mathfrak{Z} 07'07	
max. Earth dist.	354 Jul 22 j 04:55	28° \mathfrak{E} 27'55	6.36139 AU	retrograde	360 May 14 j 17:31	26° \mathfrak{Z} 35'08	
	354 Jul 29 j 05:13	0° \mathfrak{Q}		opposition	360 Jul 14 j 08:04	21° \mathfrak{Z} 38'24	0°-48'-43
morning rise	354 Aug 04 j 07:04	1° \mathfrak{Q} 19'31		min. Earth dist.	360 Jul 14 j 16:38	21° \mathfrak{Z} 35'37	4.04916 AU
	354 Oct 16 j 03:29	15° \mathfrak{Q}		direct	360 Sep 11 j 21:58	16° \mathfrak{Z} 44'25	
retrograde	354 Dec 03 j 18:12	18° \mathfrak{Q} 31'59			360 Dec 20 j 00:19	0° \approx	
	355 Jan 21 j 22:11	15° \mathfrak{R} \mathfrak{Q}		evening set	361 Jan 14 j 21:35	6° \approx 01'15	
opposition	355 Feb 01 j 19:46	13° \mathfrak{Q} 35'22	1°18'15				
min. Earth dist.	355 Feb 01 j 23:39	13° \mathfrak{Q} 34'05	4.40378 AU	conjunction	361 Jan 27 j 20:28	9° \approx 07'51	0°-49'-38
direct	355 Apr 04 j 14:11	8° \mathfrak{Q} 32'08		minimum elong	361 Jan 27 j 20:25	9° \approx 07'49	0°49'39
	355 Jun 13 j 09:32	15° \mathfrak{Q}		max. Earth dist.	361 Jan 27 j 22:28	9° \approx 09'03	6.00183 AU
evening set	355 Aug 09 j 16:49	26° \mathfrak{Q} 14'38		morning rise	361 Feb 09 j 22:01	12° \approx 15'59	
					361 Feb 21 j 11:08	15° \approx	
conjunction	355 Aug 22 j 20:07	29° \mathfrak{Q} 05'11	1°04'09		361 May 11 j 06:44	0° \mathfrak{K}	
minimum elong	355 Aug 22 j 20:05	29° \mathfrak{Q} 05'10	1°04'09	retrograde	361 Jun 21 j 14:49	2° \mathfrak{K} 37'51	
max. Earth dist.	355 Aug 22 j 00:44	28° \mathfrak{Q} 54'40	6.43031 AU		361 Aug 02 j 03:05	30° \mathfrak{R} \approx	
	355 Aug 27 j 01:08	0° \mathfrak{M}		opposition	361 Aug 20 j 18:59	27° \approx 37'08	-1°-34'00

min. Earth dist.	361 Aug 20 j 05:28	27° 34 41'38	3.97250 AU	direct	367 Apr 09 j 02:42	12° 05 57'10	
direct	361 Oct 18 j 03:47	22° 34 43'37			367 May 16 j 17:49	15° 05	
	361 Dec 26 j 09:54	0° 34			367 Aug 11 j 05:22	0° 05	
evening set	362 Feb 20 j 08:57	12° 34 20'26		evening set	367 Aug 14 j 02:56	0° 05 37'20	
				max. Earth dist.	367 Aug 26 j 05:45	3° 05 14'33	6.43590 AU
conjunction	362 Mar 05 j 15:24	15° 34 32'06	-1°-8'-54				
minimum elong	362 Mar 05 j 15:24	15° 34 32'06	1°08'56	conjunction	367 Aug 27 j 05:07	3° 05 27'13	1°06'10
max. Earth dist.	362 Mar 07 j 01:43	15° 34 52'48	5.96340 AU	minimum elong	367 Aug 27 j 05:05	3° 05 27'12	1°06'10
morning rise	362 Mar 19 j 00:53	18° 34 45'27		morning rise	367 Sep 09 j 04:16	6° 05 15'37	
	362 May 08 j 08:49	0° 34		retrograde	368 Jan 07 j 07:07	23° 05 03'55	
retrograde	362 Jul 29 j 11:01	9° 34 21'17		opposition	368 Mar 07 j 18:34	18° 05 10'41	1°42'00
min. Earth dist.	362 Sep 25 j 23:45	4° 34 27'03	3.97820 AU	min. Earth dist.	368 Mar 08 j 17:20	18° 05 03'21	4.44077 AU
opposition	362 Sep 27 j 04:51	4° 34 17'11	-1°-42'-51	direct	368 May 09 j 09:23	13° 05 08'10	
	362 Nov 04 j 21:59	30° 34			368 Sep 09 j 15:25	0° 05	
direct	362 Nov 24 j 02:15	29° 34 22'05		evening set	368 Sep 13 j 02:07	0° 05 44'40	
	362 Dec 13 j 06:33	0° 34		max. Earth dist.	368 Sep 24 j 04:15	3° 05 09'36	6.42593 AU
evening set	363 Mar 29 j 19:24	18° 34 54'03					
				conjunction	368 Sep 25 j 21:33	3° 05 32'11	1°09'44
conjunction	363 Apr 12 j 09:26	22° 34 07'01	-1°-1'-20	minimum elong	368 Sep 25 j 21:34	3° 05 32'11	1°09'44
minimum elong	363 Apr 12 j 09:29	22° 34 07'02	1°01'21	morning rise	368 Oct 08 j 14:14	6° 05 18'28	
max. Earth dist.	363 Apr 14 j 13:40	22° 34 37'57	6.01155 AU	retrograde	369 Feb 06 j 05:19	23° 05 16'01	
morning rise	363 Apr 26 j 02:14	25° 34 21'11		opposition	369 Apr 07 j 23:57	18° 05 24'12	1°33'39
	363 May 16 j 05:54	0° 34		min. Earth dist.	369 Apr 09 j 09:40	18° 05 13'27	4.39605 AU
	363 Aug 19 j 18:04	15° 34		direct	369 Jun 09 j 16:20	13° 05 23'23	
retrograde	363 Sep 03 j 15:06	15° 34 21'57			369 Oct 08 j 09:08	0° 05	
	363 Sep 18 j 10:19	15° 34		evening set	369 Oct 13 j 19:26	1° 05 11'44	
min. Earth dist.	363 Oct 31 j 18:21	10° 34 28'31	4.06347 AU	max. Earth dist.	369 Oct 24 j 09:10	3° 05 32'51	6.34920 AU
opposition	363 Nov 02 j 04:46	10° 34 16'47	-1°-11'-44				
direct	363 Dec 30 j 11:45	5° 34 18'41		conjunction	369 Oct 26 j 11:07	4° 05 00'44	0°54'06
	364 Mar 22 j 14:42	15° 34		minimum elong	369 Oct 26 j 11:09	4° 05 00'45	0°54'06
evening set	364 May 04 j 20:19	24° 34 23'59		morning rise	369 Nov 08 j 01:15	6° 05 49'08	
					369 Dec 16 j 18:46	15° 05	
conjunction	364 May 18 j 14:38	27° 34 33'40	0°-30'-58	retrograde	370 Mar 10 j 16:45	24° 05 22'45	
minimum elong	364 May 18 j 14:40	27° 34 33'41	0°30'59	opposition	370 May 10 j 14:48	19° 05 30'38	0°58'33
max. Earth dist.	364 May 20 j 16:08	28° 34 02'09	6.12610 AU	min. Earth dist.	370 May 12 j 01:36	19° 05 19'32	4.29144 AU
	364 May 29 j 05:34	0° 34			370 Jun 24 j 05:55	15° 05	
morning rise	364 Jun 01 j 09:54	0° 34 43'33		direct	370 Jul 11 j 15:47	14° 05 32'11	
retrograde	364 Oct 06 j 14:15	19° 34 40'08			370 Jul 29 j 01:34	15° 05	
min. Earth dist.	364 Dec 04 j 01:41	14° 34 45'30	4.19424 AU		370 Nov 01 j 21:09	0° 05	
opposition	364 Dec 05 j 03:38	14° 34 36'42	0°-16'-41	evening set	370 Nov 14 j 04:32	2° 05 46'23	
direct	365 Feb 02 j 14:06	9° 34 35'46		max. Earth dist.	370 Nov 25 j 01:52	5° 05 46'00	6.22541 AU
asc. node	365 Mar 27 j 01:06	13° 34 41'40					
evening set	365 Jun 09 j 09:42	28° 34 05'39		conjunction	370 Nov 26 j 20:08	5° 05 40'17	0°22'08
	365 Jun 17 j 23:19	0° 34		minimum elong	370 Nov 26 j 20:09	5° 05 40'18	0°22'09
				morning rise	370 Dec 09 j 11:15	8° 05 34'16	
conjunction	365 Jun 23 j 02:29	1° 34 08'42	0°08'52	retrograde	371 Apr 14 j 07:02	27° 05 40'54	
minimum elong	365 Jun 23 j 02:28	1° 34 08'41	0°08'52	opposition	371 Jun 14 j 03:45	22° 05 41'50	0°03'15
behind sun begin	365 Jun 22 j 19:22	1° 34 04'45		min. Earth dist.	371 Jun 15 j 04:36	22° 05 40'31	4.15614 AU
behind sun end	365 Jun 23 j 09:33	1° 34 12'38		desc. node	371 Jul 05 j 09:56	19° 05 36'13	
max. Earth dist.	365 Jun 24 j 09:21	1° 34 25'55	6.26278 AU	direct	371 Aug 13 j 23:31	17° 05 36'06	
morning rise	365 Jul 06 j 18:04	4° 34 10'56			371 Nov 20 j 09:37	0° 05	
retrograde	365 Nov 07 j 10:06	22° 34 03'14		evening set	371 Dec 17 j 02:04	6° 05 04'46	
opposition	366 Jan 06 j 05:34	17° 34 03'20	0°40'21				
min. Earth dist.	366 Jan 05 j 17:52	17° 34 07'14	4.32454 AU	conjunction	371 Dec 29 j 20:21	9° 05 05'30	0°-18'-17
direct	366 Mar 07 j 23:14	12° 34 00'37		minimum elong	371 Dec 29 j 20:20	9° 05 05'29	0°18'19
evening set	366 Jul 13 j 02:18	29° 34 59'38		max. Earth dist.	371 Dec 28 j 21:07	8° 05 51'45	6.09076 AU
	366 Jul 13 j 03:00	0° 34		morning rise	372 Jan 11 j 16:07	12° 05 07'12	
					372 Apr 16 j 09:57	0° 05	
conjunction	366 Jul 26 j 12:32	2° 34 55'12	0°44'19	retrograde	372 May 20 j 01:25	1° 05 44'45	
minimum elong	366 Jul 26 j 12:29	2° 34 55'11	0°44'18		372 Jun 22 j 18:50	30° 05	
max. Earth dist.	366 Jul 26 j 14:53	2° 34 56'29	6.37675 AU	opposition	372 Jul 19 j 14:16	26° 05 47'31	0°-56'-41
morning rise	366 Aug 08 j 20:20	5° 34 49'25		min. Earth dist.	372 Jul 19 j 19:16	26° 05 45'53	4.03349 AU
	366 Sep 22 j 22:37	15° 34		direct	372 Sep 16 j 23:21	21° 05 35'44	
retrograde	366 Dec 08 j 01:34	22° 34 56'27			372 Nov 30 j 07:52	0° 05	
opposition	367 Feb 06 j 03:37	18° 34 00'22	1°22'58	evening set	373 Jan 19 j 23:31	11° 05 14'53	
min. Earth dist.	367 Feb 06 j 10:53	17° 34 57'59	4.41478 AU				
	367 Mar 02 j 20:20	15° 34		conjunction	373 Feb 01 j 23:31	14° 05 22'25	0°-53'-47

minimum elong	373 Feb 01 j 23:29	14°  22'24	0°53'47	morning rise	378 Aug 13 j 06:26	10°  12'54	
max. Earth dist.	373 Feb 02 j 08:00	14°  27'32	5.99148 AU		378 Sep 04 j 21:02	15° 	
	373 Feb 04 j 13:53	15° 		retrograde	378 Dec 12 j 05:02	27°  16'04	
morning rise	373 Feb 15 j 02:01	17°  31'28		opposition	379 Feb 10 j 09:22	22°  20'26	1°27'08
	373 Apr 12 j 20:24	0° 		min. Earth dist.	379 Feb 10 j 18:25	22°  17'29	4.42094 AU
retrograde	373 Jun 27 j 01:31	7°  58'04		direct	379 Apr 13 j 10:28	17°  17'15	
min. Earth dist.	373 Aug 25 j 11:26	3°  02'10	3.96903 AU		379 Jul 25 j 22:29	0° 	
opposition	373 Aug 26 j 03:26	2°  56'49	-1°-37'-46	evening set	379 Aug 18 j 11:26	4°  56'38	
	373 Sep 18 j 21:17	30° 		max. Earth dist.	379 Aug 30 j 09:31	7°  31'24	6.43655 AU
direct	373 Oct 23 j 09:29	28°  03'16					
	373 Nov 26 j 14:14	0° 		conjunction	379 Aug 31 j 12:32	7°  46'03	1°07'48
evening set	374 Feb 25 j 15:37	17°  40'23		minimum elong	379 Aug 31 j 12:30	7°  46'03	1°07'47
				morning rise	379 Sep 13 j 10:42	10°  43'02	
conjunction	374 Mar 10 j 23:01	20°  52'22	-1°-9'-30	retrograde	380 Jan 11 j 14:12	27°  42'45	
minimum elong	374 Mar 10 j 23:01	20°  52'22	1°09'30	opposition	380 Mar 12 j 01:58	22°  49'49	1°42'29
max. Earth dist.	374 Mar 12 j 12:24	21°  14'52	5.96687 AU	min. Earth dist.	380 Mar 13 j 03:28	22°  49'49	4.43605 AU
morning rise	374 Mar 24 j 09:47	24°  06'03		direct	380 May 13 j 18:36	17°  49'49	
	374 Apr 18 j 17:39	0° 			380 Aug 24 j 07:31	0° 	
retrograde	374 Aug 03 j 15:32	14°  38'43		evening set	380 Sep 17 j 09:14	5°  49'49	
min. Earth dist.	374 Oct 01 j 01:46	9°  45'02	3.98845 AU	max. Earth dist.	380 Sep 28 j 08:02	7°  49'49	6.41609 AU
opposition	374 Oct 02 j 09:27	9°  34'17	-1°-40'-37				
direct	374 Nov 29 j 06:35	4°  38'47		conjunction	380 Sep 30 j 04:02	7°  49'49	1°08'39
evening set	375 Apr 04 j 01:45	24°  06'56		minimum elong	380 Sep 30 j 04:03	7°  49'49	1°08'39
				morning rise	380 Oct 12 j 20:16	10°  49'49	
conjunction	375 Apr 17 j 16:37	27°  19'31	0°-58'-10	retrograde	381 Feb 10 j 16:26	27°  49'49	
minimum elong	375 Apr 17 j 16:40	27°  19'33	0°58'11	opposition	381 Apr 12 j 11:52	22°  49'49	1°30'13
max. Earth dist.	375 Apr 19 j 21:36	27°  50'46	6.02746 AU	min. Earth dist.	381 Apr 13 j 21:45	22°  49'49	4.38186 AU
	375 Apr 29 j 01:16	0° 		direct	381 Jun 14 j 02:20	17°  49'49	
morning rise	375 May 01 j 09:59	0° 			381 Sep 21 j 18:20	0° 	
	375 Jul 10 j 02:04	15° 		evening set	381 Oct 18 j 04:23	5°  41'29	
retrograde	375 Sep 08 j 12:31	20°  8'24'49		max. Earth dist.	381 Oct 28 j 19:51	8°  41'29	6.33193 AU
min. Earth dist.	375 Nov 05 j 16:52	15°  8'30'56	4.08296 AU				
opposition	375 Nov 07 j 01:53	15°  8'19'40	-1°-4'-54	conjunction	381 Oct 30 j 19:59	8°  31'06	0°50'25
	375 Nov 09 j 11:31	15°  8'18'38		minimum elong	381 Oct 30 j 20:02	8°  31'07	0°50'24
direct	376 Jan 04 j 13:05	10°  8'21'06		morning rise	381 Nov 12 j 09:57	11°  41'29	
	376 Feb 28 j 15:54	15°  8'18'38			381 Nov 29 j 02:08	15° 	
evening set	376 May 09 j 21:43	29°  8'20'27		retrograde	382 Mar 15 j 10:54	29°  41'29	
	376 May 12 j 19:09	0° 		opposition	382 May 15 j 09:15	24°  41'29	0°51'39
				min. Earth dist.	382 May 16 j 19:20	23°  41'29	4.27218 AU
conjunction	376 May 23 j 16:13	2°  11'29'14	0°-25'-37	direct	382 Jul 16 j 07:00	19°  41'29	
minimum elong	376 May 23 j 16:15	2°  11'29'16	0°25'39		382 Oct 15 j 11:37	0° 	
max. Earth dist.	376 May 25 j 16:49	2°  11'57'03	6.14752 AU	evening set	382 Nov 18 j 18:09	7°  41'29	
morning rise	376 Jun 06 j 11:14	5°  11'38'03		max. Earth dist.	382 Nov 29 j 16:47	10°  41'29	6.20585 AU
retrograde	376 Oct 11 j 01:54	24°  11'24'10					
opposition	376 Dec 09 j 16:56	19°  11'21'09	0°-8'-24	conjunction	382 Dec 01 j 09:50	10°  41'29	0°16'39
min. Earth dist.	376 Dec 08 j 16:09	19°  11'29'32	4.21544 AU	minimum elong	382 Dec 01 j 09:51	10°  41'29	0°16'39
asc. node	377 Feb 04 j 04:54	14°  11'20'50		morning rise	382 Dec 14 j 01:35	13°  41'29	
direct	377 Feb 07 j 07:07	14°  11'19'54			383 Mar 13 j 23:52	0° 	
	377 Jun 01 j 15:51	0° 		retrograde	383 Apr 19 j 08:57	2°  00'37	
evening set	377 Jun 14 j 04:18	2°  00'44'17		desc. node	383 May 14 j 10:33	1°  00'37	
					383 May 26 j 01:26	30° 	
conjunction	377 Jun 27 j 20:14	5°  00'46'11	0°14'18	opposition	383 Jun 19 j 05:11	27°  41'29	0°-5'-28
minimum elong	377 Jun 27 j 20:13	5°  00'46'10	0°14'18	min. Earth dist.	383 Jun 20 j 02:56	26°  41'29	4.13773 AU
behind sun begin	377 Jun 27 j 16:38	5° 00'44'11		direct	383 Aug 18 j 20:08	22° 41'29	
behind sun end	377 Jun 27 j 23:49	5° 00'48'10			383 Nov 01 j 00:10	0°	
max. Earth dist.	377 Jun 28 j 21:45	6° 00'00'21	6.28204 AU	evening set	383 Dec 21 j 21:36	11° 00'40'4	
morning rise	377 Jul 11 j 11:03	8° 00'47'14					
retrograde	377 Nov 11 j 17:56	26° 00'31'39		conjunction	384 Jan 03 j 16:40	14° 00'45	0°-23'-59
opposition	378 Jan 10 j 13:39	21° 00'32'17	0°47'24	minimum elong	384 Jan 03 j 16:38	14° 00'44	0°24'00
min. Earth dist.	378 Jan 10 j 05:38	21° 00'34'57	4.34037 AU	max. Earth dist.	384 Jan 02 j 23:05	13° 00'55'20	6.07525 AU
direct	378 Mar 12 j 13:00	16° 00'29'23		morning rise	384 Jan 16 j 13:04	17° 00'48'27	
	378 Jun 26 j 19:21	0°			384 Mar 16 j 14:17	0°	
evening set	378 Jul 17 j 14:37	4° 00'12'4'56		retrograde	384 May 25 j 09:42	6° 00'53'46	
				opposition	384 Jul 24 j 20:34	1° 00'55'59	-1°-4'-11
conjunction	378 Jul 30 j 23:55	7° 00'19'38	0°48'18	min. Earth dist.	384 Jul 24 j 23:02	1° 00'55'10	4.02238 AU
minimum elong	378 Jul 30 j 23:53	7° 00'19'37	0°48'18		384 Aug 09 j 00:13	30°	
max. Earth dist.	378 Jul 30 j 23:00	7° 00'19'08	6.38794 AU	direct	384 Sep 22 j 01:40	27° 00'42'23	

	384 Nov 04 j 02:42	0°♊		morning rise	390 Aug 17 j 17:04	14°♏38'06	
	385 Jan 19 j 00:53	15°♊			390 Aug 19 j 09:38	15°♏	
evening set	385 Jan 25 j 01:12	16°♊26'03			390 Nov 13 j 22:29	0°♐	
				retrograde	390 Dec 16 j 12:18	1°♐38'26	
conjunction	385 Feb 07 j 01:56	19°♊34'12	0°-57'-28		391 Jan 18 j 00:44	30°♐	
minimum elong	385 Feb 07 j 01:53	19°♊34'11	0°57'29	opposition	391 Feb 14 j 16:31	26°♏43'17	1°30'53
max. Earth dist.	385 Feb 07 j 13:45	19°♊41'20	5.98548 AU	min. Earth dist.	391 Feb 15 j 04:54	26°♏39'15	4.42485 AU
morning rise	385 Feb 20 j 05:37	22°♊43'59		direct	391 Apr 17 j 21:17	21°♏40'09	
	385 Mar 23 j 15:17	0°♋			391 Jul 07 j 14:58	0°♐	
retrograde	385 Jul 02 j 07:37	13°♋13'17		evening set	391 Aug 22 j 20:42	9°♐19'18	
opposition	385 Aug 31 j 09:41	8°♋11'31	-1°-40'-42				
min. Earth dist.	385 Aug 30 j 14:05	8°♋18'04	3.96906 AU	conjunction	391 Sep 04 j 20:56	12°♐08'23	1°09'05
direct	385 Oct 28 j 12:55	3°♋17'49		minimum elong	391 Sep 04 j 20:55	12°♐08'23	1°09'04
evening set	386 Mar 02 j 20:38	22°♋54'17		max. Earth dist.	391 Sep 03 j 15:50	11°♐52'35	6.43561 AU
				morning rise	391 Sep 17 j 18:02	14°♐56'01	
conjunction	386 Mar 16 j 05:09	26°♋06'30	-1°-9'-32		391 Dec 12 j 22:32	0°♑	
minimum elong	386 Mar 16 j 05:09	26°♋06'30	1°09'32	retrograde	392 Jan 15 j 21:04	1°♑45'41	
max. Earth dist.	386 Mar 17 j 21:45	26°♋30'53	5.97275 AU		392 Feb 19 j 00:09	30°♐	
morning rise	386 Mar 29 j 16:49	29°♋20'19		opposition	392 Mar 16 j 10:52	26°♐53'02	1°42'26
	386 Apr 01 j 11:37	0°♒		min. Earth dist.	392 Mar 17 j 12:57	26°♐44'39	4.43072 AU
retrograde	386 Aug 08 j 18:27	19°♒49'01		direct	392 May 18 j 03:02	21°♐50'58	
min. Earth dist.	386 Oct 06 j 03:31	14°♒55'07	3.99947 AU		392 Aug 05 j 21:08	0°♑	
opposition	386 Oct 07 j 11:15	14°♒44'19	-1°-37'-38	evening set	392 Sep 21 j 17:45	9°♑30'46	
direct	386 Dec 04 j 10:17	9°♒48'26		max. Earth dist.	392 Oct 02 j 15:20	11°♑54'02	6.40689 AU
evening set	387 Apr 09 j 05:49	29°♒12'58					
	387 Apr 12 j 14:11	0°♓		conjunction	392 Oct 04 j 11:50	12°♑18'30	1°07'11
				minimum elong	392 Oct 04 j 11:51	12°♑18'30	1°07'11
conjunction	387 Apr 22 j 21:33	2°♓25'14	0°-54'-37	morning rise	392 Oct 17 j 03:31	15°♑05'09	
minimum elong	387 Apr 22 j 21:36	2°♓25'15	0°54'37		393 Jan 08 j 01:45	0°♒	
max. Earth dist.	387 Apr 25 j 03:44	2°♓57'03	6.04260 AU	retrograde	393 Feb 15 j 05:34	2°♒11'20	
morning rise	387 May 06 j 15:25	5°♓38'25			393 Mar 25 j 18:11	30°♒	
	387 Jun 18 j 00:37	15°♓		opposition	393 Apr 17 j 01:10	27°♑19'38	1°26'15
retrograde	387 Sep 13 j 07:12	25°♓21'28		min. Earth dist.	393 Apr 18 j 12:05	27°♑08'31	4.36946 AU
min. Earth dist.	387 Nov 10 j 11:55	20°♓27'43	4.10061 AU	direct	393 Jun 18 j 15:14	22°♑19'28	
opposition	387 Nov 11 j 20:43	20°♓16'33	0°-57'-45		393 Sep 02 j 20:46	0°♒	
direct	388 Jan 09 j 10:04	15°♓17'38		evening set	393 Oct 22 j 14:14	10°♒14'27	
	388 Apr 26 j 01:37	0°♑		max. Earth dist.	393 Nov 02 j 05:21	12°♒37'26	6.31743 AU
evening set	388 May 14 j 21:32	4°♑12'09					
				conjunction	393 Nov 04 j 05:37	13°♒04'35	0°46'26
conjunction	388 May 28 j 15:51	7°♑20'06	0°-20'-11	minimum elong	393 Nov 04 j 05:39	13°♒04'36	0°46'26
minimum elong	388 May 28 j 15:53	7°♑20'07	0°20'11		393 Nov 12 j 18:52	15°♒	
max. Earth dist.	388 May 30 j 12:19	7°♑45'25	6.16612 AU	morning rise	393 Nov 16 j 19:41	15°♒54'16	
morning rise	388 Jun 11 j 10:44	10°♑27'58			394 Jan 28 j 23:03	0°♓	
retrograde	388 Oct 15 j 13:48	29°♑05'10		retrograde	394 Mar 20 j 05:04	3°♓42'07	
min. Earth dist.	388 Dec 13 j 07:08	24°♑10'05	4.23322 AU		394 May 10 j 21:23	30°♒	
opposition	388 Dec 14 j 05:14	24°♑02'37	0°00'-10	opposition	394 May 20 j 04:17	28°♒49'38	0°44'26
asc. node	388 Dec 15 j 09:49	23°♑52'58		min. Earth dist.	394 May 21 j 12:11	28°♒39'27	4.25657 AU
direct	389 Feb 12 j 00:37	19°♑01'02		direct	394 Jul 20 j 22:02	23°♒51'59	
	389 May 15 j 05:08	0°♑			394 Sep 25 j 01:29	0°♓	
evening set	389 Jun 18 j 22:16	7°♑21'22		evening set	394 Nov 23 j 07:24	12°♓14'25	
				max. Earth dist.	394 Dec 04 j 10:34	14°♓48'36	6.19060 AU
conjunction	389 Jul 02 j 13:40	10°♑22'21	0°19'38				
minimum elong	389 Jul 02 j 13:39	10°♑22'20	0°19'37	conjunction	394 Dec 05 j 23:23	15°♓09'56	0°11'07
max. Earth dist.	389 Jul 03 j 12:40	10°♑35'05	6.29775 AU	minimum elong	394 Dec 05 j 23:24	15°♓09'56	0°11'07
morning rise	389 Jul 16 j 03:20	13°♑22'18		behind sun begin	394 Dec 05 j 17:23	15°♓06'28	
	389 Oct 21 j 22:29	0°♒		behind sun end	394 Dec 06 j 05:25	15°♓13'24	
retrograde	389 Nov 16 j 00:34	1°♒00'11		morning rise	394 Dec 18 j 15:25	18°♓05'46	
	389 Dec 10 j 23:44	30°♒			395 Feb 13 j 05:25	0°♑	
opposition	390 Jan 14 j 21:37	26°♑01'25	0°54'10	desc. node	395 Mar 24 j 15:48	5°♑26'54	
min. Earth dist.	390 Jan 14 j 15:26	26°♑03'28	4.35295 AU	retrograde	395 Apr 24 j 10:48	6°♑53'59	
direct	390 Mar 17 j 00:18	20°♑58'27		opposition	395 Jun 24 j 05:39	1°♑59'13	0°-14'-1
	390 Jun 08 j 17:54	0°♒		min. Earth dist.	395 Jun 25 j 01:41	1°♑52'46	4.12396 AU
evening set	390 Jul 22 j 03:32	8°♒51'43			395 Jul 10 j 02:01	30°♒	
				direct	395 Aug 23 j 16:57	27°♓40'08	
conjunction	390 Aug 04 j 11:35	11°♒45'37	0°52'01		395 Oct 06 j 07:05	0°♑	
minimum elong	390 Aug 04 j 11:32	11°♒45'35	0°52'02	evening set	395 Dec 26 j 15:57	16°♑00'18	
max. Earth dist.	390 Aug 04 j 05:17	11°♒42'11	6.39632 AU				

conjunction	396 Jan 08 j 11:26	19°  02'40	0°-29'-22	max. Earth dist.	401 Jul 07 j 23:24	15°  04'36	6.31033 AU
minimum elong	396 Jan 08 j 11:24	19°  02'39	0°29'22	morning rise	401 Jul 20 j 18:13	17°  53'41	
max. Earth dist.	396 Jan 07 j 20:29	18°  53'47	6.06411 AU		401 Sep 20 j 01:26	0° 	
morning rise	396 Jan 21 j 08:45	22°  06'12		retrograde	401 Nov 20 j 07:58	5°  26'13	
	396 Feb 25 j 03:28	0° 		opposition	402 Jan 19 j 05:17	0°  27'57	1°00'29
retrograde	396 May 30 j 12:06	11°  57'22		min. Earth dist.	402 Jan 19 j 01:45	0°  29'07	4.36295 AU
opposition	396 Jul 29 j 23:44	6°  59'00	-1°-10'-58		402 Jan 22 j 17:46	30°  R 	
min. Earth dist.	396 Jul 29 j 22:22	6°  59'27	4.01512 AU	direct	402 Mar 21 j 11:53	25°  52'45	
direct	396 Sep 27 j 00:20	2°  05'27			402 May 17 j 20:27	0° 	
	397 Jan 02 j 00:54	15° 		evening set	402 Jul 26 j 15:27	13°  21'21	
evening set	397 Jan 30 j 00:11	21°  30'29			402 Aug 03 j 14:43	15° 	
conjunction	397 Feb 12 j 01:53	24°  39'09	-1°00'-36	conjunction	402 Aug 08 j 22:35	16°  20'34	0°55'23
minimum elong	397 Feb 12 j 01:51	24°  39'08	1°00'37	minimum elong	402 Aug 08 j 22:33	16°  20'33	0°55'23
max. Earth dist.	397 Feb 12 j 18:15	24°  49'01	5.98266 AU	max. Earth dist.	402 Aug 08 j 14:34	16°  20'51	6.40311 AU
morning rise	397 Feb 25 j 06:26	27°  49'28		morning rise	402 Aug 22 j 02:44	19°  20'16	
	397 Mar 06 j 10:16	0° 			402 Oct 16 j 18:21	0° 	
retrograde	397 Jul 07 j 12:03	18°  K20'05		retrograde	402 Dec 20 j 17:27	5°  29'59'10	
opposition	397 Sep 05 j 12:05	13°  K17'48	-1°-42'-42	opposition	403 Feb 18 j 23:24	1°  29'04'26	1°34'03
min. Earth dist.	397 Sep 04 j 15:27	13°  K24'44	3.97105 AU	min. Earth dist.	403 Feb 19 j 12:57	1°  29'00'02	4.42820 AU
direct	397 Nov 02 j 15:03	8°  K23'51			403 Feb 27 j 07:18	30°  R 	
evening set	398 Mar 07 j 22:01	27°  K59'08		direct	403 Apr 22 j 05:41	26°  21'26	
	398 Mar 16 j 08:14	0° 			403 Jun 14 j 22:05	0° 	
conjunction	398 Mar 21 j 07:37	1°  Y11'31	-1°-9'-1	evening set	403 Aug 27 j 05:30	13°  29'40'08	
minimum elong	398 Mar 21 j 07:38	1°  Y11'31	1°09'02	max. Earth dist.	403 Sep 07 j 20:13	16°  29'11'13	6.43511 AU
max. Earth dist.	398 Mar 23 j 03:02	1°  Y37'32	5.97926 AU	conjunction	403 Sep 09 j 04:35	16°  29'28'49	1°09'56
morning rise	398 Apr 03 j 20:17	4°  Y25'27		minimum elong	403 Sep 09 j 04:34	16°  29'28'48	1°09'56
retrograde	398 Aug 13 j 16:58	24°  Y49'50		morning rise	403 Sep 22 j 00:53	19°  29'16'07	
min. Earth dist.	398 Oct 11 j 00:28	19°  Y56'03	4.00991 AU		403 Nov 15 j 07:16	0° 	
opposition	398 Oct 12 j 08:59	19°  Y44'59	-1°-34'-3	retrograde	404 Jan 20 j 05:46	6°  21'06'27	
direct	398 Dec 09 j 07:47	14°  Y48'44		opposition	404 Mar 20 j 19:39	1°  21'14'01	1°41'46
	399 Mar 27 j 02:58	0° 		min. Earth dist.	404 Mar 21 j 23:58	1°  21'04'57	4.42634 AU
evening set	399 Apr 14 j 06:38	4°  8'10'08			404 Mar 30 j 12:49	30°  R 	
conjunction	399 Apr 27 j 22:55	7°  8'22'05	0°-50'-48	direct	404 May 22 j 13:24	26°  29'12'08	
minimum elong	399 Apr 27 j 22:58	7°  8'22'06	0°50'49		404 Jul 13 j 22:07	0° 	
max. Earth dist.	399 Apr 30 j 02:52	7°  8'52'30	6.05595 AU	evening set	404 Sep 26 j 00:49	13°  29'52'54	
morning rise	399 May 11 j 17:26	10°  8'34'53		max. Earth dist.	404 Oct 06 j 21:16	16°  29'15'50	6.39869 AU
	399 May 31 j 02:32	15° 		conjunction	404 Oct 08 j 18:27	16°  29'40'44	1°05'19
	399 Sep 07 j 19:36	0° 		minimum elong	404 Oct 08 j 18:29	16°  29'40'45	1°05'18
retrograde	399 Sep 17 j 22:33	0°  II10'18		morning rise	404 Oct 21 j 09:37	19°  29'42'32	
	399 Sep 28 j 01:21	30°  R 			404 Dec 12 j 16:10	0° 	
min. Earth dist.	399 Nov 15 j 04:53	25°  8'16'16	4.11538 AU	retrograde	405 Feb 19 j 16:11	6°  29'37'40	
opposition	399 Nov 16 j 12:17	25°  8'05'34	0°-50'-29	opposition	405 Apr 21 j 13:40	1°  29'45'54	1°21'46
direct	400 Jan 14 j 05:26	20°  8'06'12		min. Earth dist.	405 Apr 22 j 23:46	1°  29'35'02	4.35771 AU
	400 Apr 08 j 03:53	0° 			405 May 05 j 17:45	30°  R 	
evening set	400 May 19 j 18:43	8°  II57'08		direct	405 Jun 23 j 00:55	26°  29'46'03	
conjunction	400 Jun 02 j 13:13	12°  II04'26	0°-14'-46		405 Aug 09 j 16:34	0° 	
minimum elong	400 Jun 02 j 13:14	12°  II04'27	0°14'46	evening set	405 Oct 26 j 22:35	14°  29'43'40	
behind sun begin	400 Jun 02 j 10:15	12°  II02'46			405 Oct 28 j 03:46	15° 	
behind sun end	400 Jun 02 j 16:13	12°  II06'08		max. Earth dist.	405 Nov 06 j 14:47	17°  29'40'74	6.30289 AU
max. Earth dist.	400 Jun 04 j 08:11	12°  II28'49	6.18144 AU	conjunction	405 Nov 08 j 13:48	17°  29'34'18	0°42'12
morning rise	400 Jun 16 j 07:38	15°  II11'28		minimum elong	405 Nov 08 j 13:50	17°  29'34'19	0°42'12
	400 Aug 31 j 17:57	0° 		morning rise	405 Nov 21 j 03:51	20°  29'42'35	
retrograde	400 Oct 20 j 00:47	3°  54'1'00			406 Jan 05 j 17:09	0° 	
asc. node	400 Oct 26 j 17:26	3°  53'6'33		retrograde	406 Mar 25 j 00:09	8°  29'19'25	
	400 Dec 08 j 12:20	30°  R 		opposition	406 May 24 j 22:21	3°  29'26'45	0°36'57
opposition	400 Dec 18 j 15:46	28°  II38'59	0°07'50	min. Earth dist.	406 May 26 j 06:12	3°  29'16'35	4.23979 AU
min. Earth dist.	400 Dec 17 j 19:30	28°  II45'49	4.24770 AU		406 Jun 23 j 20:10	30°  R 	
direct	401 Feb 16 j 14:54	23°  II37'12		direct	406 Jul 25 j 13:23	28°  29'29'28	
	401 Apr 25 j 04:25	0° 			406 Aug 26 j 00:49	0° 	
evening set	401 Jun 23 j 14:48	11°  54'30		evening set	406 Nov 27 j 19:49	16°  29'17'56'00	
conjunction	401 Jul 07 j 05:19	14°  54'37	0°24'43	max. Earth dist.	406 Dec 09 j 00:19	19°  29'13'35	6.17299 AU
minimum elong	401 Jul 07 j 05:17	14°  54'36	0°24'43	conjunction	406 Dec 10 j 12:05	19°  29'12'22	0°05'32

minimum elong	406 Dec 10 j 12:05	19°♂52'22	0°05'31	behind sun begin	412 Jun 07 j 06:25	16°♂53'16	
behind sun begin	406 Dec 10 j 04:23	19°♂47'55		behind sun end	412 Jun 07 j 20:30	17°♂01'11	
behind sun end	406 Dec 10 j 19:47	19°♂56'49		max. Earth dist.	412 Jun 09 j 05:41	17°♂19'58	6.20024 AU
morning rise	406 Dec 23 j 04:44	22°♂49'11		morning rise	412 Jun 21 j 07:31	20°♂03'15	
	407 Jan 24 j 09:40	0°♂			412 Aug 07 j 16:40	0°♂	
desc. node	407 Feb 01 j 21:10	1°♂44'52		asc. node	412 Sep 05 j 07:19	4°♂43'28	
retrograde	407 Apr 29 j 10:25	11°♂46'12		retrograde	412 Oct 24 j 12:13	8°♂23'41	
opposition	407 Jun 29 j 05:33	6°♂50'59	0°-22'-33	min. Earth dist.	412 Dec 22 j 09:38	3°♂28'30	4.26706 AU
min. Earth dist.	407 Jun 29 j 22:16	6°♂45'35	4.10688 AU	opposition	412 Dec 23 j 04:38	3°♂22'06	0°15'58
direct	407 Aug 28 j 10:57	1°♂56'12			413 Jan 19 j 19:32	30°♂♂	
evening set	407 Dec 31 j 10:31	20°♂56'58		direct	413 Feb 21 j 07:56	28°♂20'03	
					413 Mar 26 j 07:20	0°♂	
conjunction	408 Jan 13 j 06:45	24°♂00'19	0°-34'-36	evening set	413 Jun 28 j 08:49	16°♂32'22	
minimum elong	408 Jan 13 j 06:42	24°♂00'17	0°34'37				
max. Earth dist.	408 Jan 12 j 20:10	23°♂54'01	6.04907 AU	conjunction	413 Jul 11 j 22:28	19°♂31'19	0°29'45
morning rise	408 Jan 26 j 04:51	27°♂04'52		minimum elong	413 Jul 11 j 22:26	19°♂31'18	0°29'45
	408 Feb 07 j 15:30	0°♂		max. Earth dist.	413 Jul 12 j 14:21	19°♂40'03	6.32903 AU
	408 Apr 29 j 04:38	15°♂		morning rise	413 Jul 25 j 10:04	22°♂29'04	
retrograde	408 Jun 04 j 18:59	17°♂03'50			413 Aug 30 j 08:25	0°♂	
	408 Jul 11 j 10:46	15°♂		retrograde	413 Nov 24 j 14:57	9°♂54'02	
opposition	408 Aug 04 j 04:12	12°♂04'56	-1°-17'-23	opposition	414 Jan 23 j 13:19	4°♂56'17	1°06'27
min. Earth dist.	408 Aug 04 j 00:58	12°♂05'59	4.00358 AU	min. Earth dist.	414 Jan 23 j 11:54	4°♂56'45	4.37966 AU
direct	408 Oct 02 j 01:59	7°♂11'27			414 Mar 17 j 10:30	30°♂♂	
	408 Dec 13 j 11:23	15°♂		direct	414 Mar 26 j 00:19	29°♂53'09	
evening set	409 Feb 04 j 01:13	26°♂39'43			414 Apr 03 j 15:03	0°♂	
					414 Jul 18 j 13:54	15°♂	
conjunction	409 Feb 17 j 03:58	29°♂49'10	-1°-3'-21	evening set	414 Jul 31 j 02:41	17°♂40'21	
minimum elong	409 Feb 17 j 03:56	29°♂49'09	1°03'21				
	409 Feb 17 j 21:55	0°♂		conjunction	414 Aug 13 j 08:29	20°♂32'30	0°58'25
max. Earth dist.	409 Feb 18 j 00:27	0°♂01'31	5.97561 AU	minimum elong	414 Aug 13 j 08:26	20°♂32'29	0°58'25
morning rise	409 Mar 02 j 09:41	3°♂00'18		max. Earth dist.	414 Aug 12 j 19:59	20°♂25'43	6.41639 AU
retrograde	409 Jul 12 j 18:25	23°♂33'46		morning rise	414 Aug 26 j 11:30	23°♂23'11	
opposition	409 Sep 10 j 16:49	18°♂31'05	-1°-44'00		414 Sep 27 j 07:04	0°♂	
min. Earth dist.	409 Sep 09 j 17:38	18°♂38'53	3.96964 AU	retrograde	414 Dec 24 j 21:44	10°♂16'40	
direct	409 Nov 07 j 16:47	13°♂36'57		opposition	415 Feb 23 j 05:03	5°♂22'15	1°36'36
	410 Feb 27 j 12:11	0°♂		min. Earth dist.	415 Feb 23 j 21:13	5°♂17'01	4.43734 AU
evening set	410 Mar 13 j 03:15	3°♂12'36		direct	415 Apr 26 j 14:27	0°♂19'15	
				evening set	415 Aug 31 j 11:15	17°♂55'27	
conjunction	410 Mar 26 j 13:50	6°♂25'16	-1°-7'-58	max. Earth dist.	415 Sep 11 j 23:52	20°♂25'17	6.43927 AU
minimum elong	410 Mar 26 j 13:51	6°♂25'17	1°07'59				
max. Earth dist.	410 Mar 28 j 10:27	6°♂51'58	5.98337 AU	conjunction	415 Sep 13 j 09:29	20°♂43'34	1°10'23
morning rise	410 Apr 09 j 03:39	9°♂39'30		minimum elong	415 Sep 13 j 09:29	20°♂43'34	1°10'23
	410 Aug 17 j 06:25	0°♂		morning rise	415 Sep 26 j 04:38	23°♂30'17	
retrograde	410 Aug 18 j 17:58	0°♂00'13			415 Oct 27 j 08:25	0°♂	
	410 Aug 20 j 05:34	30°♂♂		retrograde	416 Jan 24 j 08:58	10°♂20'06	
min. Earth dist.	410 Oct 16 j 00:41	25°♂06'33	4.01909 AU	opposition	416 Mar 25 j 01:22	5°♂27'48	1°40'32
opposition	410 Oct 17 j 09:55	24°♂55'13	-1°-29'-39	min. Earth dist.	416 Mar 26 j 06:39	5°♂18'26	4.42521 AU
direct	410 Dec 14 j 10:10	19°♂58'34		direct	416 May 26 j 19:06	0°♂26'06	
	411 Mar 08 j 11:06	0°♂		evening set	416 Sep 30 j 04:30	18°♂06'51	
evening set	411 Apr 19 j 11:24	9°♂17'20		max. Earth dist.	416 Oct 10 j 21:45	20°♂28'21	6.39216 AU
conjunction	411 May 03 j 04:32	12°♂29'01	0°-46'-28	conjunction	416 Oct 12 j 21:24	20°♂54'39	1°03'09
minimum elong	411 May 03 j 04:35	12°♂29'02	0°46'30	minimum elong	416 Oct 12 j 21:26	20°♂54'40	1°03'09
max. Earth dist.	411 May 05 j 09:52	13°♂00'07	6.06968 AU	morning rise	416 Oct 25 j 12:15	23°♂41'34	
	411 May 13 j 23:53	15°♂			416 Nov 24 j 04:59	0°♂	
morning rise	411 May 16 j 23:18	15°♂41'21		retrograde	417 Feb 24 j 01:44	10°♂55'21	
	411 Jul 25 j 22:53	0°♂		opposition	417 Apr 25 j 22:41	6°♂03'32	1°16'58
retrograde	411 Sep 22 j 19:03	5°♂08'37		min. Earth dist.	417 Apr 27 j 10:38	5°♂52'05	4.34584 AU
min. Earth dist.	411 Nov 20 j 00:58	0°♂14'33	4.13222 AU	direct	417 Jun 27 j 09:20	1°♂03'53	
opposition	411 Nov 21 j 07:25	0°♂04'12	0°-42'-37		417 Oct 12 j 15:50	15°♂	
	411 Nov 21 j 19:44	30°♂♂		evening set	417 Oct 31 j 03:25	19°♂04'23	
direct	412 Jan 19 j 04:15	25°♂04'31		max. Earth dist.	417 Nov 10 j 19:14	21°♂28'46	6.28658 AU
	412 Mar 16 j 13:24	0°♂					
evening set	412 May 24 j 19:18	13°♂50'51		conjunction	417 Nov 12 j 18:42	21°♂55'40	0°37'52
				minimum elong	417 Nov 12 j 18:44	21°♂55'41	0°37'52
conjunction	412 Jun 07 j 13:27	16°♂57'13	0°-9'-6	morning rise	417 Nov 25 j 08:54	24°♂46'42	
minimum elong	412 Jun 07 j 13:27	16°♂57'14	0°09'06		417 Dec 19 j 02:09	0°♂	

retrograde	418 Mar 29 j 14:31	12°♂49'19		opposition	423 Nov 26 j 03:12	5°♂04'34	0°-34'-21
opposition	418 May 29 j 13:15	7°♂56'21	0°29'28	direct	424 Jan 24 j 03:26	0°♂04'27	
min. Earth dist.	418 May 30 j 19:34	7°♂46'39	4.21995 AU	evening set	424 May 29 j 20:45	18°♂45'25	
direct	418 Jul 29 j 23:00	2°♂59'22					
evening set	418 Dec 02 j 05:51	21°♂31'22		conjunction	424 Jun 12 j 14:35	21°♂50'45	0°-3'-18
				minimum elong	424 Jun 12 j 14:35	21°♂50'45	0°03'19
conjunction	418 Dec 14 j 22:30	24°♂28'49	0°00'-1	behind sun begin	424 Jun 12 j 06:18	21°♂46'06	
minimum elong	418 Dec 14 j 22:31	24°♂28'49	0°00'02	behind sun end	424 Jun 12 j 22:53	21°♂55'24	
behind sun begin	418 Dec 14 j 16:06	24°♂25'06		max. Earth dist.	424 Jun 14 j 04:14	22°♂11'56	6.22091 AU
behind sun end	418 Dec 15 j 04:56	24°♂32'32		morning rise	424 Jun 26 j 07:55	24°♂55'32	
max. Earth dist.	418 Dec 13 j 12:56	24°♂09'12	6.15130 AU	asc. node	424 Jul 14 j 20:41	28°♂59'31	
desc. node	418 Dec 14 j 16:30	24°♂25'20			424 Jul 19 j 14:19	0°♂	
morning rise	418 Dec 27 j 15:48	27°♂26'50		retrograde	424 Oct 29 j 01:40	13°♂06'23	
	419 Jan 07 j 17:53	0°♂		opposition	424 Dec 27 j 17:55	8°♂05'18	0°24'03
retrograde	419 May 04 j 11:23	16°♂34'26		min. Earth dist.	424 Dec 27 j 01:43	8°♂10'44	4.28707 AU
opposition	419 Jul 04 j 04:02	11°♂38'47	0°-30'-45	direct	425 Feb 26 j 02:43	3°♂03'01	
min. Earth dist.	419 Jul 04 j 19:37	11°♂33'44	4.08488 AU	evening set	425 Jul 03 j 02:59	21°♂10'19	
direct	419 Sep 02 j 05:19	6°♂44'12					
evening set	420 Jan 05 j 04:43	25°♂51'39		conjunction	425 Jul 16 j 15:36	24°♂08'06	0°34'39
				minimum elong	425 Jul 16 j 15:34	24°♂08'05	0°34'40
conjunction	420 Jan 18 j 01:52	28°♂56'16	0°-39'-30	max. Earth dist.	425 Jul 17 j 03:28	24°♂14'37	6.34655 AU
minimum elong	420 Jan 18 j 01:50	28°♂56'14	0°39'31	morning rise	425 Jul 30 j 02:04	27°♂04'40	
max. Earth dist.	420 Jan 17 j 18:45	28°♂52'00	6.02887 AU		425 Aug 12 j 15:44	0°♂	
	420 Jan 22 j 12:22	0°♂		retrograde	425 Nov 28 j 21:43	14°♂22'58	
morning rise	420 Jan 31 j 01:05	2°♂02'12		opposition	426 Jan 27 j 22:12	9°♂25'43	1°12'09
	420 Mar 30 j 22:27	15°♂		min. Earth dist.	426 Jan 27 j 22:58	9°♂25'28	4.39354 AU
retrograde	420 Jun 10 j 01:38	22°♂10'42		direct	426 Mar 30 j 12:21	4°♂22'31	
opposition	420 Aug 09 j 08:31	17°♂11'19	-1°-23'-10		426 Jul 01 j 04:34	15°♂	
min. Earth dist.	420 Aug 09 j 01:55	17°♂13'30	3.98752 AU	evening set	426 Aug 04 j 14:42	22°♂06'42	
	420 Aug 26 j 12:27	15°♂					
direct	420 Oct 07 j 00:46	12°♂17'54		conjunction	426 Aug 17 j 19:22	24°♂58'00	1°01'13
	420 Nov 16 j 19:22	15°♂		minimum elong	426 Aug 17 j 19:20	24°♂57'59	1°01'13
	421 Feb 01 j 09:28	0°♂		max. Earth dist.	426 Aug 17 j 04:01	24°♂49'41	6.42554 AU
evening set	421 Feb 09 j 04:01	1°♂51'21		morning rise	426 Aug 30 j 21:02	27°♂47'49	
					426 Sep 10 j 04:29	0°♂	
conjunction	421 Feb 22 j 07:52	5°♂01'49	-1°-5'-32	retrograde	426 Dec 29 j 04:14	14°♂38'38	
minimum elong	421 Feb 22 j 07:50	5°♂01'48	1°05'33	opposition	427 Feb 27 j 12:40	9°♂44'41	1°38'47
max. Earth dist.	421 Feb 23 j 07:42	5°♂16'13	5.96509 AU	min. Earth dist.	427 Feb 28 j 07:14	9°♂38'40	4.44131 AU
morning rise	421 Mar 07 j 14:57	8°♂14'01		direct	427 May 01 j 00:25	4°♂41'51	
retrograde	421 Jul 18 j 01:50	28°♂51'22		evening set	427 Sep 04 j 19:40	22°♂17'26	
opposition	421 Sep 15 j 23:01	23°♂48'09	-1°-44'-25	max. Earth dist.	427 Sep 16 j 03:00	24°♂44'38	6.43755 AU
min. Earth dist.	421 Sep 14 j 21:13	23°♂56'52	3.96593 AU				
direct	421 Nov 12 j 21:03	18°♂53'45		conjunction	427 Sep 17 j 16:52	25°♂05'14	1°10'31
	422 Feb 09 j 03:22	0°♂		minimum elong	427 Sep 17 j 16:52	25°♂05'14	1°10'31
evening set	422 Mar 18 j 10:46	8°♂30'29		morning rise	427 Sep 30 j 11:20	27°♂51'44	
					427 Oct 10 j 10:14	0°♂	
conjunction	422 Mar 31 j 22:45	11°♂43'35	-1°-6'-17	retrograde	428 Jan 28 j 18:50	14°♂43'09	
minimum elong	422 Mar 31 j 22:46	11°♂43'37	1°06'17	opposition	428 Mar 29 j 11:09	9°♂51'01	1°38'49
max. Earth dist.	422 Apr 03 j 00:04	12°♂13'03	5.98691 AU	min. Earth dist.	428 Mar 30 j 18:26	9°♂41'01	4.41804 AU
morning rise	422 Apr 14 j 13:30	14°♂58'06		direct	428 May 31 j 05:00	4°♂49'31	
	422 Jun 25 j 14:29	0°♂		evening set	428 Oct 04 j 12:06	22°♂32'16	
retrograde	422 Aug 23 j 23:05	5°♂14'41		max. Earth dist.	428 Oct 15 j 04:59	24°♂53'57	6.38004 AU
min. Earth dist.	422 Oct 21 j 03:03	0°♂21'01	4.02926 AU				
opposition	422 Oct 22 j 12:43	0°♂09'32	-1°-24'-25	conjunction	428 Oct 17 j 04:46	25°♂20'24	1°00'35
	422 Oct 23 j 16:41	30°♂		minimum elong	428 Oct 17 j 04:47	25°♂20'25	1°00'35
direct	422 Dec 19 j 14:57	25°♂12'28		morning rise	428 Oct 29 j 19:10	28°♂07'41	
	423 Feb 13 j 04:00	0°♂			428 Nov 07 j 08:28	0°♂	
evening set	423 Apr 24 j 18:22	14°♂27'55			429 Feb 11 j 13:53	15°♂	
	423 Apr 27 j 01:51	15°♂		retrograde	429 Feb 28 j 15:22	15°♂27'10	
					429 Mar 17 j 17:54	15°♂	
conjunction	423 May 08 j 11:56	17°♂39'07	0°-41'-42	opposition	429 Apr 30 j 13:27	10°♂35'18	1°11'31
minimum elong	423 May 08 j 11:59	17°♂39'08	0°41'43	min. Earth dist.	429 May 02 j 00:53	10°♂24'01	4.32948 AU
max. Earth dist.	423 May 10 j 16:59	18°♂09'55	6.08528 AU	direct	429 Jul 01 j 20:18	5°♂36'02	
morning rise	423 May 22 j 07:10	20°♂50'52			429 Sep 24 j 19:20	15°♂	
	423 Jul 03 j 04:47	0°♂		evening set	429 Nov 04 j 14:04	23°♂40'47	
retrograde	423 Sep 27 j 13:34	10°♂08'48		max. Earth dist.	429 Nov 15 j 06:10	26°♂06'02	6.26728 AU
min. Earth dist.	423 Nov 24 j 20:49	5°♂14'55	4.15123 AU				

conjunction	429 Nov 17 j 05:15	26° \mathbb{M} 32'50	0°33'04	retrograde	435 Oct 02 j 06:06	14° \mathbb{H} 59'24	
minimum elong	429 Nov 17 j 05:16	26° \mathbb{M} 32'51	0°33'03	opposition	435 Nov 30 j 19:25	9° \mathbb{H} 55'28	0°-26'-8
morning rise	429 Nov 29 j 19:47	29° \mathbb{M} 24'47		min. Earth dist.	435 Nov 29 j 15:35	10° \mathbb{H} 04'56	4.17309 AU
	429 Dec 02 j 10:07	0° \mathbb{A}		direct	436 Jan 29 j 01:01	4° \mathbb{H} 54'56	
retrograde	430 Apr 03 j 14:02	17° \mathbb{A} 36'26		asc. node	436 May 24 j 20:08	21° \mathbb{H} 18'24	
opposition	430 Jun 03 j 11:11	12° \mathbb{A} 43'12	0°21'18	evening set	436 Jun 03 j 17:51	23° \mathbb{H} 29'52	
min. Earth dist.	430 Jun 04 j 16:44	12° \mathbb{A} 33'44	4.19889 AU				
direct	430 Aug 03 j 17:31	7° \mathbb{A} 46'33		conjunction	436 Jun 17 j 11:15	26° \mathbb{H} 34'04	0°02'26
desc. node	430 Oct 23 j 18:04	16° \mathbb{A} 45'58		minimum elong	436 Jun 17 j 11:14	26° \mathbb{H} 34'04	0°02'26
evening set	430 Dec 06 j 22:24	26° \mathbb{A} 24'16		behind sun begin	436 Jun 17 j 02:54	26° \mathbb{H} 29'25	
max. Earth dist.	430 Dec 18 j 09:20	29° \mathbb{A} 05'02	6.13053 AU	behind sun end	436 Jun 17 j 19:35	26° \mathbb{H} 38'43	
				max. Earth dist.	436 Jun 18 j 22:07	26° \mathbb{H} 53'36	6.24193 AU
conjunction	430 Dec 19 j 15:40	29° \mathbb{A} 22'49	0°-5'-55	morning rise	436 Jul 01 j 03:48	29° \mathbb{H} 37'37	
minimum elong	430 Dec 19 j 15:40	29° \mathbb{A} 22'49	0°05'55		436 Jul 02 j 20:09	0° \mathbb{E}	
behind sun begin	430 Dec 19 j 08:01	29° \mathbb{A} 18'21		retrograde	436 Nov 02 j 08:49	17° \mathbb{E} 39'20	
behind sun end	430 Dec 19 j 23:20	29° \mathbb{A} 27'18		opposition	437 Jan 01 j 03:28	12° \mathbb{E} 38'46	0°31'42
	430 Dec 22 j 07:02	0° \mathbb{E}		min. Earth dist.	436 Dec 31 j 13:00	12° \mathbb{E} 43'36	4.30561 AU
morning rise	431 Jan 01 j 09:38	2° \mathbb{E} 22'03		direct	437 Mar 02 j 15:52	7° \mathbb{E} 36'15	
retrograde	431 May 09 j 17:02	21° \mathbb{E} 39'38		evening set	437 Jul 07 j 17:33	25° \mathbb{E} 39'18	
opposition	431 Jul 09 j 08:52	16° \mathbb{E} 43'34	0°-39'-16				
min. Earth dist.	431 Jul 09 j 20:58	16° \mathbb{E} 39'38	4.06650 AU	conjunction	437 Jul 21 j 05:04	28° \mathbb{E} 36'02	0°39'13
direct	431 Sep 07 j 04:18	11° \mathbb{E} 49'19		minimum elong	437 Jul 21 j 05:02	28° \mathbb{E} 36'01	0°39'12
	432 Jan 05 j 20:44	0° \mathbb{A}		max. Earth dist.	437 Jul 21 j 11:58	28° \mathbb{E} 39'49	6.36119 AU
evening set	432 Jan 10 j 04:56	1° \mathbb{A} 01'52			437 Jul 27 j 14:29	0° \mathbb{A}	
				morning rise	437 Aug 03 j 14:22	1° \mathbb{A} 31'30	
conjunction	432 Jan 23 j 02:48	4° \mathbb{A} 07'28	0°-44'-23		437 Oct 13 j 23:37	15° \mathbb{A}	
minimum elong	432 Jan 23 j 02:46	4° \mathbb{A} 07'27	0°44'24	retrograde	437 Dec 03 j 03:54	18° \mathbb{A} 44'28	
max. Earth dist.	432 Jan 22 j 23:44	4° \mathbb{A} 05'37	6.01463 AU		438 Jan 22 j 22:01	15° \mathbb{R} \mathbb{A}	
morning rise	432 Feb 05 j 03:07	7° \mathbb{A} 14'30		opposition	438 Feb 01 j 04:31	13° \mathbb{A} 47'45	1°17'18
	432 Mar 09 j 22:06	15° \mathbb{A}		min. Earth dist.	438 Feb 01 j 08:56	13° \mathbb{A} 46'18	4.40343 AU
retrograde	432 Jun 15 j 11:42	27° \mathbb{A} 29'56		direct	438 Apr 03 j 23:18	8° \mathbb{A} 44'32	
opposition	432 Aug 14 j 17:21	22° \mathbb{A} 29'55	-1°-28'-32		438 Jun 11 j 11:01	15° \mathbb{A}	
min. Earth dist.	432 Aug 14 j 07:13	22° \mathbb{A} 33'17	3.97926 AU	evening set	438 Aug 09 j 00:17	26° \mathbb{A} 26'59	
direct	432 Oct 12 j 06:09	17° \mathbb{A} 36'29		max. Earth dist.	438 Aug 21 j 08:16	29° \mathbb{A} 07'03	6.42976 AU
	433 Jan 14 j 10:50	0° \mathbb{H}					
evening set	433 Feb 14 j 10:04	7° \mathbb{H} 11'46		conjunction	438 Aug 22 j 03:54	29° \mathbb{A} 17'42	1°03'37
				minimum elong	438 Aug 22 j 03:52	29° \mathbb{A} 17'41	1°03'37
conjunction	433 Feb 27 j 15:10	10° \mathbb{H} 22'50	-1°-7'-20		438 Aug 25 j 09:55	0° \mathbb{H}	
minimum elong	433 Feb 27 j 15:08	10° \mathbb{H} 22'49	1°07'21	morning rise	438 Sep 04 j 04:30	2° \mathbb{H} 06'55	
max. Earth dist.	433 Feb 28 j 21:13	10° \mathbb{H} 40'58	5.96371 AU	retrograde	439 Jan 02 j 09:33	18° \mathbb{H} 56'49	
morning rise	433 Mar 12 j 23:14	13° \mathbb{H} 35'32		opposition	439 Mar 03 j 19:18	14° \mathbb{H} 03'11	1°40'26
	433 May 31 j 15:57	0° \mathbb{Y}		min. Earth dist.	439 Mar 04 j 15:46	13° \mathbb{H} 56'34	4.44000 AU
retrograde	433 Jul 23 j 10:39	4° \mathbb{Y} 12'21		direct	439 May 05 j 07:58	9° \mathbb{H} 00'28	
	433 Sep 14 j 21:34	30° \mathbb{R} \mathbb{H}		evening set	439 Sep 09 j 02:59	26° \mathbb{H} 37'02	
min. Earth dist.	433 Sep 20 j 02:37	29° \mathbb{H} 17'58	3.97190 AU	max. Earth dist.	439 Sep 20 j 08:23	29° \mathbb{H} 03'27	6.43080 AU
opposition	433 Sep 21 j 06:02	29° \mathbb{H} 08'42	-1°-44'00				
direct	433 Nov 18 j 03:56	24° \mathbb{H} 14'00		conjunction	439 Sep 21 j 23:29	29° \mathbb{H} 24'47	1°10'16
	434 Jan 18 j 01:08	0° \mathbb{Y}		minimum elong	439 Sep 21 j 23:29	29° \mathbb{H} 24'47	1°10'15
evening set	434 Mar 23 j 18:31	13° \mathbb{Y} 48'02			439 Sep 24 j 16:01	0° \mathbb{A}	
				morning rise	439 Oct 04 j 17:06	2° \mathbb{A} 11'15	
conjunction	434 Apr 06 j 07:17	17° \mathbb{Y} 00'58	-1°-4'-9	retrograde	440 Feb 02 j 04:11	19° \mathbb{A} 05'57	
minimum elong	434 Apr 06 j 07:19	17° \mathbb{Y} 00'59	1°04'10	opposition	440 Apr 02 j 21:24	14° \mathbb{A} 14'01	1°36'34
max. Earth dist.	434 Apr 08 j 09:58	17° \mathbb{Y} 31'06	5.99932 AU	min. Earth dist.	440 Apr 04 j 05:55	14° \mathbb{A} 03'38	4.40635 AU
morning rise	434 Apr 19 j 23:02	20° \mathbb{Y} 15'15		direct	440 Jun 04 j 14:23	9° \mathbb{A} 12'52	
	434 Jun 02 j 15:10	0° \mathbb{B}		evening set	440 Oct 08 j 20:34	26° \mathbb{A} 58'53	
retrograde	434 Aug 28 j 22:10	10° \mathbb{B} 23'57		max. Earth dist.	440 Oct 19 j 11:11	29° \mathbb{A} 19'56	6.36429 AU
min. Earth dist.	434 Oct 26 j 02:02	5° \mathbb{B} 30'34	4.04672 AU				
opposition	434 Oct 27 j 12:48	5° \mathbb{B} 18'42	-1°-18'-39	conjunction	440 Oct 21 j 12:44	29° \mathbb{A} 47'29	0°57'38
direct	434 Dec 24 j 16:58	0° \mathbb{B} 21'08		minimum elong	440 Oct 21 j 12:46	29° \mathbb{A} 47'30	0°57'39
	435 Apr 09 j 23:17	15° \mathbb{B}			440 Oct 22 j 11:14	0° \mathbb{M}	
evening set	435 Apr 29 j 22:15	19° \mathbb{B} 30'56		morning rise	440 Nov 03 j 03:08	2° \mathbb{M} 35'22	
					441 Jan 05 j 01:04	15° \mathbb{M}	
conjunction	435 May 13 j 16:11	22° \mathbb{B} 41'20	0°-36'-46	retrograde	441 Mar 05 j 08:35	20° \mathbb{M} 01'45	
minimum elong	435 May 13 j 16:13	22° \mathbb{B} 41'22	0°36'47	opposition	441 May 05 j 05:55	15° \mathbb{M} 09'48	1°05'34
max. Earth dist.	435 May 15 j 19:44	23° \mathbb{B} 11'08	6.10615 AU		441 May 06 j 12:40	15° \mathbb{R} \mathbb{M}	
morning rise	435 May 27 j 11:23	25° \mathbb{B} 52'07		min. Earth dist.	441 May 06 j 17:12	14° \mathbb{M} 58'33	4.31065 AU
	435 Jun 14 j 19:28	0° \mathbb{H}		direct	441 Jul 06 j 10:18	10° \mathbb{M} 10'54	

	441 Sep 02 j 22:40	15°♍			447 Mar 22 j 08:40	15°♏	
evening set	441 Nov 09 j 02:13	28°♍20'34		evening set	447 May 05 j 00:01	24°♏28'59	
	441 Nov 16 j 09:01	0°♏					
max. Earth dist.	441 Nov 19 j 21:33	0°♏48'18	6.24713 AU	conjunction	447 May 18 j 18:16	27°♏38'41	0°-31'-40
				minimum elong	447 May 18 j 18:18	27°♏38'42	0°31'41
conjunction	441 Nov 21 j 17:42	1°♏13'33	0°27'59	max. Earth dist.	447 May 20 j 21:04	28°♏07'54	6.12497 AU
minimum elong	441 Nov 21 j 17:44	1°♏13'34	0°27'59		447 May 29 j 00:23	0°♐	
morning rise	441 Dec 04 j 08:26	4°♏06'27		morning rise	447 Jun 01 j 13:25	0°♐48'35	
retrograde	442 Apr 08 j 13:37	22°♏27'16		retrograde	447 Oct 06 j 19:07	19°♐46'19	
opposition	442 Jun 08 j 10:57	17°♏33'47	0°12'52	min. Earth dist.	447 Dec 04 j 06:49	14°♐51'56	4.19214 AU
min. Earth dist.	442 Jun 09 j 14:05	17°♏25'05	4.17893 AU	opposition	447 Dec 05 j 09:43	14°♐42'49	0°-17'-54
direct	442 Aug 08 j 12:11	12°♏37'37		direct	448 Feb 02 j 18:28	9°♐41'58	
desc. node	442 Sep 01 j 14:37	13°♏32'09		asc. node	448 Apr 03 j 22:02	15°♐07'14	
	442 Dec 05 j 22:16	0°♑		evening set	448 Jun 08 j 14:01	28°♐12'13	
evening set	442 Dec 11 j 16:38	1°♑20'25			448 Jun 16 j 15:43	0°♑	
max. Earth dist.	442 Dec 23 j 06:58	4°♑03'52	6.11250 AU				
				conjunction	448 Jun 22 j 06:45	1°♑15'24	0°07'59
conjunction	442 Dec 24 j 10:14	4°♑19'56	0°-11'-45	minimum elong	448 Jun 22 j 06:44	1°♑15'23	0°07'59
minimum elong	442 Dec 24 j 10:13	4°♑19'55	0°11'46	behind sun begin	448 Jun 21 j 23:21	1°♑11'17	
behind sun begin	442 Dec 24 j 04:30	4°♑16'34		behind sun end	448 Jun 22 j 14:07	1°♑19'30	
behind sun end	442 Dec 24 j 15:57	4°♑23'17		max. Earth dist.	448 Jun 23 j 12:31	1°♑32'01	6.25974 AU
morning rise	443 Jan 06 j 05:02	7°♑20'16		morning rise	448 Jul 05 j 22:37	4°♑17'52	
retrograde	443 May 15 j 00:02	26°♑46'47		retrograde	448 Nov 06 j 18:09	22°♑11'54	
opposition	443 Jul 14 j 14:39	21°♑50'10	0°-47'-33	opposition	449 Jan 05 j 12:46	17°♑11'52	0°39'06
min. Earth dist.	443 Jul 14 j 23:18	21°♑47'21	4.05196 AU	min. Earth dist.	449 Jan 05 j 01:47	17°♑15'32	4.32076 AU
direct	443 Sep 12 j 05:48	16°♑56'09		direct	449 Mar 07 j 06:38	12°♑09'10	
	443 Dec 19 j 12:07	0°♒			449 Jul 11 j 15:02	0°♒	
evening set	444 Jan 15 j 05:31	6°♒12'17		evening set	449 Jul 12 j 07:45	0°♒09'04	
conjunction	444 Jan 28 j 04:23	9°♒18'42	0°-48'-55	conjunction	449 Jul 25 j 18:24	3°♒04'57	0°43'32
minimum elong	444 Jan 28 j 04:20	9°♒18'41	0°48'56	minimum elong	449 Jul 25 j 18:22	3°♒04'56	0°43'31
max. Earth dist.	444 Jan 28 j 07:28	9°♒20'33	6.00492 AU	max. Earth dist.	449 Jul 25 j 22:15	3°♒07'03	6.37250 AU
morning rise	444 Feb 10 j 05:31	12°♒26'33		morning rise	449 Aug 08 j 02:27	5°♒59'28	
	444 Feb 21 j 00:47	15°♒			449 Sep 21 j 05:54	15°♒	
	444 May 09 j 06:48	0°♓		retrograde	449 Dec 07 j 08:44	23°♒08'17	
retrograde	444 Jun 20 j 21:11	2°♓46'42		opposition	450 Feb 05 j 11:35	18°♒12'03	1°22'03
	444 Aug 02 j 15:17	30°♓		min. Earth dist.	450 Feb 05 j 17:35	18°♒10'05	4.41044 AU
opposition	444 Aug 20 j 00:56	27°♓46'09	-1°-33'-8		450 Mar 04 j 01:38	15°♓	
min. Earth dist.	444 Aug 19 j 12:22	27°♓50'20	3.97559 AU	direct	450 Apr 08 j 08:35	13°♒08'51	
direct	444 Oct 17 j 10:41	22°♓52'44			450 May 14 j 01:59	15°♒	
	444 Dec 24 j 22:17	0°♓			450 Aug 09 j 12:42	0°♓	
evening set	445 Feb 19 j 15:17	12°♓28'25		evening set	450 Aug 13 j 10:29	0°♓50'18	
conjunction	445 Mar 04 j 21:15	15°♓39'48	-1°-8'-33	conjunction	450 Aug 26 j 12:57	3°♓40'28	1°05'41
minimum elong	445 Mar 04 j 21:15	15°♓39'48	1°08'34	minimum elong	450 Aug 26 j 12:55	3°♓40'27	1°05'41
max. Earth dist.	445 Mar 06 j 05:50	15°♓59'26	5.96604 AU	max. Earth dist.	450 Aug 25 j 13:44	3°♓27'52	6.43189 AU
morning rise	445 Mar 18 j 06:35	18°♓52'55		morning rise	450 Sep 08 j 12:30	6°♓29'10	
	445 May 07 j 00:06	0°♔		retrograde	451 Jan 06 j 17:16	23°♓18'49	
retrograde	445 Jul 28 j 14:49	9°♔27'36		opposition	451 Mar 08 j 03:27	18°♓25'32	1°41'34
min. Earth dist.	445 Sep 25 j 04:19	4°♔33'44	3.98017 AU	min. Earth dist.	451 Mar 09 j 02:37	18°♓18'04	4.43736 AU
opposition	445 Sep 26 j 10:14	4°♔23'36	-1°-42'-44	direct	451 May 09 j 18:29	13°♓23'01	
	445 Nov 05 j 22:12	30°♓			451 Sep 08 j 19:07	0°♕	
direct	445 Nov 23 j 07:27	29°♓28'35		evening set	451 Sep 13 j 11:28	1°♕00'40	
	445 Dec 10 j 18:44	0°♕		max. Earth dist.	451 Sep 24 j 13:33	3°♕25'38	6.42352 AU
evening set	446 Mar 28 j 23:54	18°♕59'37					
				conjunction	451 Sep 26 j 07:13	3°♕48'24	1°09'37
conjunction	446 Apr 11 j 13:39	22°♕12'22	-1°-1'-33	minimum elong	451 Sep 26 j 07:13	3°♕48'24	1°09'37
minimum elong	446 Apr 11 j 13:42	22°♕12'24	1°01'34	morning rise	451 Oct 09 j 00:15	6°♕34'55	
max. Earth dist.	446 Apr 13 j 17:26	22°♕43'03	6.01268 AU	retrograde	452 Feb 06 j 14:58	23°♕33'00	
morning rise	446 Apr 25 j 06:04	25°♕26'20		opposition	452 Apr 07 j 09:18	18°♕41'08	1°33'45
	446 May 15 j 00:32	0°♖		min. Earth dist.	452 Apr 08 j 18:01	18°♕30'41	4.39518 AU
	446 Aug 17 j 05:31	15°♖		direct	452 Jun 09 j 00:59	13°♕40'16	
retrograde	446 Sep 02 j 20:45	15°♖27'19			452 Oct 06 j 11:45	0°♗	
	446 Sep 19 j 08:04	15°♖		evening set	452 Oct 13 j 05:46	1°♗29'03	
min. Earth dist.	446 Oct 31 j 01:01	10°♖33'32	4.06348 AU	max. Earth dist.	452 Oct 23 j 21:59	3°♗51'27	6.35032 AU
opposition	446 Nov 01 j 10:29	10°♖22'07	-1°-12'-27				
direct	446 Dec 29 j 18:15	5°♖24'07		conjunction	452 Oct 25 j 21:44	4°♗18'06	0°54'21

minimum elong	452 Oct 25 j 21:46	4°♄18'07	0°54'21		458 Jul 09 j 14:06	15°♄	
morning rise	452 Nov 07 j 11:50	7°♄06'28		retrograde	458 Sep 07 j 14:46	20°♄20'53	
	452 Dec 14 j 18:21	15°♄		min. Earth dist.	458 Nov 04 j 18:55	15°♄27'13	4.07824 AU
retrograde	453 Mar 10 j 01:24	24°♄39'06		opposition	458 Nov 06 j 04:20	15°♄15'49	-1°-5'-58
opposition	453 May 09 j 23:37	19°♄47'03	0°59'12		458 Nov 08 j 02:46	15°♄	
min. Earth dist.	453 May 11 j 10:12	19°♄36'03	4.29480 AU	direct	459 Jan 03 j 13:26	10°♄17'28	
	453 Jun 29 j 21:46	15°♄			459 Feb 28 j 01:37	15°♄	
direct	453 Jul 11 j 01:26	14°♄48'36		evening set	459 May 09 j 22:51	29°♄18'29	
	453 Jul 22 j 04:36	15°♄			459 May 12 j 23:37	0°♄	
	453 Oct 31 j 03:02	0°♄					
evening set	453 Nov 13 j 14:42	3°♄01'47		conjunction	459 May 23 j 17:11	2°♄27'33	0°-26'-31
max. Earth dist.	453 Nov 24 j 11:01	5°♄30'42	6.23079 AU	minimum elong	459 May 23 j 17:13	2°♄27'34	0°26'32
				max. Earth dist.	459 May 25 j 16:09	2°♄54'28	6.14088 AU
conjunction	453 Nov 26 j 06:07	5°♄55'26	0°22'46	morning rise	459 Jun 06 j 12:25	5°♄36'44	
minimum elong	453 Nov 26 j 06:08	5°♄55'26	0°22'46	retrograde	459 Oct 11 j 07:21	24°♄26'26	
morning rise	453 Dec 08 j 21:20	8°♄49'11		opposition	459 Dec 09 j 21:54	19°♄23'20	0°-9'-50
retrograde	454 Apr 13 j 13:13	27°♄17'50		min. Earth dist.	459 Dec 08 j 21:30	19°♄31'36	4.20767 AU
opposition	454 Jun 13 j 10:34	22°♄23'55	0°04'25	direct	460 Feb 07 j 11:18	14°♄22'11	
min. Earth dist.	454 Jun 14 j 10:57	22°♄16'05	4.16326 AU	asc. node	460 Feb 14 j 02:49	14°♄26'32	
desc. node	454 Jul 12 j 12:24	19°♄00'58			460 May 31 j 11:22	0°♄	
direct	454 Aug 13 j 07:47	17°♄28'03		evening set	460 Jun 13 j 07:54	2°♄49'01	
	454 Nov 18 j 22:39	0°♄					
evening set	454 Dec 16 j 09:55	6°♄14'19		conjunction	460 Jun 27 j 00:15	5°♄51'25	0°13'20
max. Earth dist.	454 Dec 28 j 06:04	9°♄01'35	6.09901 AU	minimum elong	460 Jun 27 j 00:14	5°♄51'24	0°13'20
				behind sun begin	460 Jun 26 j 19:40	5°♄48'52	
conjunction	454 Dec 29 j 04:09	9°♄14'37	0°-17'-24	behind sun end	460 Jun 27 j 04:49	5°♄53'56	
minimum elong	454 Dec 29 j 04:08	9°♄14'36	0°17'26	max. Earth dist.	460 Jun 28 j 04:01	6°♄06'52	6.27393 AU
morning rise	455 Jan 10 j 23:27	12°♄15'47		morning rise	460 Jul 10 j 15:10	8°♄52'55	
	455 Apr 15 j 18:39	0°♄		retrograde	460 Nov 11 j 01:19	26°♄40'44	
retrograde	455 May 20 j 05:26	1°♄49'15		opposition	461 Jan 09 j 21:00	21°♄41'17	0°46'07
	455 Jun 23 j 16:52	30°♄		min. Earth dist.	461 Jan 09 j 11:31	21°♄44'27	4.33268 AU
opposition	455 Jul 19 j 18:23	26°♄52'07	0°-55'-16	direct	461 Mar 11 j 17:59	16°♄38'32	
min. Earth dist.	455 Jul 20 j 00:41	26°♄50'04	4.04200 AU		461 Jun 25 j 04:41	0°♄	
direct	455 Sep 17 j 05:40	21°♄58'17		evening set	461 Jul 16 j 21:11	4°♄36'16	
	455 Nov 30 j 06:35	0°♄					
evening set	456 Jan 20 j 04:03	11°♄16'23		conjunction	461 Jul 30 j 06:39	7°♄31'21	0°47'31
				minimum elong	461 Jul 30 j 06:36	7°♄31'20	0°47'31
conjunction	456 Feb 02 j 03:32	14°♄23'22	0°-52'-57	max. Earth dist.	461 Jul 30 j 05:34	7°♄30'46	6.38129 AU
minimum elong	456 Feb 02 j 03:29	14°♄23'21	0°52'58	morning rise	461 Aug 12 j 13:42	10°♄25'05	
max. Earth dist.	456 Feb 02 j 09:29	14°♄26'57	5.99912 AU		461 Sep 03 j 03:50	15°♄	
	456 Feb 04 j 16:26	15°♄		retrograde	461 Dec 11 j 15:49	27°♄30'37	
morning rise	456 Feb 15 j 05:47	17°♄31'55		opposition	462 Feb 09 j 18:33	22°♄34'53	1°26'15
	456 Apr 12 j 02:00	0°♄		min. Earth dist.	462 Feb 10 j 03:38	22°♄31'54	4.41578 AU
retrograde	456 Jun 26 j 00:45	7°♄55'04		direct	462 Apr 12 j 19:28	17°♄31'42	
opposition	456 Aug 25 j 04:56	2°♄53'57	-1°-36'-48		462 Jul 24 j 00:13	0°♄	
min. Earth dist.	456 Aug 24 j 12:56	2°♄59'17	3.97484 AU	evening set	462 Aug 17 j 20:03	5°♄12'27	
	456 Sep 17 j 12:37	30°♄					
direct	456 Oct 22 j 11:36	28°♄00'23		conjunction	462 Aug 30 j 21:38	8°♄02'10	1°07'20
	456 Nov 26 j 04:10	0°♄		minimum elong	462 Aug 30 j 21:36	8°♄02'10	1°07'19
evening set	457 Feb 24 j 16:57	17°♄35'34		max. Earth dist.	462 Aug 29 j 20:38	7°♄48'36	6.43332 AU
				morning rise	462 Sep 12 j 20:03	10°♄50'24	
conjunction	457 Mar 10 j 00:01	20°♄47'13	-1°-9'-11	retrograde	463 Jan 10 j 23:02	27°♄39'57	
minimum elong	457 Mar 10 j 00:01	20°♄47'13	1°09'12	opposition	463 Mar 12 j 11:28	22°♄46'56	1°42'05
max. Earth dist.	457 Mar 11 j 12:10	21°♄08'58	5.97025 AU	min. Earth dist.	463 Mar 13 j 11:12	22°♄39'18	4.43497 AU
morning rise	457 Mar 23 j 10:13	24°♄00'31		direct	463 May 14 j 02:33	17°♄44'37	
	457 Apr 18 j 04:09	0°♄			463 Aug 23 j 07:05	0°♄	
retrograde	457 Aug 02 j 16:31	14°♄32'28		evening set	463 Sep 17 j 19:06	5°♄22'58	
min. Earth dist.	457 Sep 30 j 04:33	9°♄38'19	3.98887 AU	max. Earth dist.	463 Sep 28 j 19:31	7°♄47'20	6.41734 AU
opposition	457 Oct 01 j 10:28	9°♄28'09	-1°-40'-42				
direct	457 Nov 28 j 09:05	4°♄32'46		conjunction	463 Sep 30 j 14:03	8°♄10'38	1°08'34
evening set	458 Apr 03 j 01:45	24°♄00'54		minimum elong	463 Sep 30 j 14:03	8°♄10'38	1°08'34
				morning rise	463 Oct 13 j 06:27	10°♄57'09	
conjunction	458 Apr 16 j 16:23	27°♄13'29	0°-58'-35	retrograde	464 Feb 11 j 01:56	27°♄58'18	
minimum elong	458 Apr 16 j 16:26	27°♄13'31	0°58'36	opposition	464 Apr 11 j 20:47	23°♄06'31	1°30'22
max. Earth dist.	458 Apr 18 j 21:17	27°♄44'43	6.02503 AU	min. Earth dist.	464 Apr 13 j 06:55	22°♄55'38	4.38528 AU
	458 Apr 28 j 11:05	0°♄		direct	464 Jun 13 j 12:44	18°♄05'57	
morning rise	458 Apr 30 j 09:29	0°♄27'11			464 Sep 19 j 20:54	0°♄	

evening set	464 Oct 17 j 13:51	5°♄56'55		max. Earth dist.	470 Apr 24 j 02:50	2°♄54'09	6.03616 AU
max. Earth dist.	464 Oct 28 j 04:46	8°♄19'05	6.33723 AU	morning rise	470 May 05 j 16:36	5°♄36'58	
					470 Jun 17 j 02:35	15°♄	
conjunction	464 Oct 30 j 05:30	8°♄46'22	0°50'46	retrograde	470 Sep 12 j 11:39	25°♄23'32	
minimum elong	464 Oct 30 j 05:32	8°♄46'23	0°50'45	min. Earth dist.	470 Nov 09 j 16:38	20°♄29'45	4.09289 AU
morning rise	464 Nov 11 j 19:36	11°♄35'15		opposition	470 Nov 11 j 01:24	20°♄18'34	0°-58'-48
	464 Nov 27 j 08:17	15°♄		direct	471 Jan 08 j 14:08	15°♄19'46	
retrograde	465 Mar 14 j 16:50	29°♄14'00			471 Apr 25 j 21:46	0°♄	
opposition	465 May 14 j 16:00	24°♄21'45	0°52'28	evening set	471 May 15 j 01:12	4°♄16'48	
min. Earth dist.	465 May 16 j 01:16	24°♄11'08	4.27904 AU				
direct	465 Jul 15 j 14:18	19°♄23'35		conjunction	471 May 28 j 19:48	7°♄25'11	0°-21'00
	465 Oct 13 j 21:17	0°♄		minimum elong	471 May 28 j 19:49	7°♄25'11	0°21'01
evening set	465 Nov 18 j 01:57	7°♄40'33		max. Earth dist.	471 May 30 j 18:34	7°♄51'52	6.15827 AU
max. Earth dist.	465 Nov 29 j 01:39	10°♄11'56	6.21369 AU	morning rise	471 Jun 11 j 14:39	10°♄33'27	
				retrograde	471 Oct 15 j 22:18	29°♄14'06	
conjunction	465 Nov 30 j 17:39	10°♄34'59	0°17'25	opposition	471 Dec 14 j 12:47	24°♄11'30	0°-1'-28
minimum elong	465 Nov 30 j 17:41	10°♄35'00	0°17'25	min. Earth dist.	471 Dec 13 j 13:31	24°♄19'21	4.22630 AU
morning rise	465 Dec 13 j 09:06	13°♄29'36		asc. node	471 Dec 24 j 11:16	22°♄51'59	
	466 Mar 12 j 04:27	0°♄		direct	472 Feb 12 j 06:25	19°♄10'06	
retrograde	466 Apr 18 j 13:23	2°♄06'37			472 May 13 j 14:58	0°♄	
desc. node	466 May 22 j 14:21	0°♄21'48		evening set	472 Jun 18 j 04:40	7°♄32'10	
	466 May 26 j 04:40	30°♄					
opposition	466 Jun 18 j 09:11	27°♄12'23	0°-4'-4	conjunction	472 Jul 01 j 20:05	10°♄33'25	0°18'44
min. Earth dist.	466 Jun 19 j 08:25	27°♄04'54	4.14582 AU	minimum elong	472 Jul 01 j 20:04	10°♄33'24	0°18'44
direct	466 Aug 18 j 02:21	22°♄16'51		max. Earth dist.	472 Jul 02 j 19:38	10°♄46'28	6.29258 AU
	466 Oct 30 j 19:14	0°♄		morning rise	472 Jul 15 j 10:12	13°♄33'44	
evening set	466 Dec 21 j 02:48	11°♄07'34			472 Oct 18 j 14:36	0°♄	
				retrograde	472 Nov 15 j 10:09	1°♄13'31	
conjunction	467 Jan 02 j 21:29	14°♄08'48	0°-22'-58		472 Dec 13 j 01:37	30°♄	
minimum elong	467 Jan 02 j 21:28	14°♄08'47	0°22'59	opposition	473 Jan 14 j 06:50	26°♄14'33	0°52'57
max. Earth dist.	467 Jan 02 j 01:17	13°♄56'50	6.08271 AU	min. Earth dist.	473 Jan 13 j 23:43	26°♄16'55	4.35015 AU
morning rise	467 Jan 15 j 17:46	17°♄11'03		direct	473 Mar 16 j 08:48	21°♄11'36	
	467 Mar 16 j 16:11	0°♄			473 Jun 06 j 20:51	0°♄	
retrograde	467 May 25 j 08:47	6°♄52'50		evening set	473 Jul 21 j 10:55	9°♄04'57	
opposition	467 Jul 24 j 21:55	1°♄55'08	-1°-2'-40				
min. Earth dist.	467 Jul 25 j 00:31	1°♄54'17	4.02840 AU	conjunction	473 Aug 03 j 19:23	11°♄58'58	0°51'15
	467 Aug 08 j 23:26	30°♄		minimum elong	473 Aug 03 j 19:20	11°♄58'56	0°51'16
direct	467 Sep 22 j 03:47	27°♄01'26		max. Earth dist.	473 Aug 03 j 16:36	11°♄57'27	6.39639 AU
	467 Nov 04 j 09:34	0°♄		morning rise	473 Aug 17 j 00:58	14°♄51'30	
	468 Jan 19 j 07:44	15°♄			473 Aug 17 j 16:41	15°♄	
evening set	468 Jan 25 j 03:32	16°♄23'18			473 Nov 11 j 01:49	0°♄	
				retrograde	473 Dec 15 j 20:00	1°♄51'38	
conjunction	468 Feb 07 j 04:04	19°♄31'08	0°-56'-38		474 Jan 19 j 14:42	30°♄	
minimum elong	468 Feb 07 j 04:01	19°♄31'06	0°56'39	opposition	474 Feb 14 j 01:13	26°♄56'19	1°29'55
max. Earth dist.	468 Feb 07 j 14:56	19°♄37'41	5.98949 AU	min. Earth dist.	474 Feb 14 j 11:39	26°♄52'55	4.42760 AU
morning rise	468 Feb 20 j 07:15	22°♄40'33		direct	474 Apr 17 j 04:52	21°♄53'12	
	468 Mar 22 j 23:47	0°♄			474 Jul 05 j 19:02	0°♄	
retrograde	468 Jul 01 j 08:48	13°♄08'13		evening set	474 Aug 22 j 04:04	9°♄30'49	
opposition	468 Aug 30 j 10:11	8°♄06'35	-1°-39'-51	max. Earth dist.	474 Sep 02 j 23:24	12°♄04'02	6.44078 AU
min. Earth dist.	468 Aug 29 j 16:47	8°♄12'25	3.97027 AU				
direct	468 Oct 27 j 15:39	3°♄12'50		conjunction	474 Sep 04 j 04:21	12°♄19'44	1°08'35
evening set	469 Mar 01 j 21:28	22°♄49'12		minimum elong	474 Sep 04 j 04:19	12°♄19'44	1°08'35
				morning rise	474 Sep 17 j 01:48	15°♄07'16	
conjunction	469 Mar 15 j 05:43	26°♄01'21	-1°-9'-19		474 Dec 10 j 16:15	0°♄	
minimum elong	469 Mar 15 j 05:43	26°♄01'21	1°09'19	retrograde	475 Jan 15 j 04:22	1°♄54'56	
max. Earth dist.	469 Mar 16 j 21:16	26°♄25'07	5.97108 AU		475 Feb 19 j 19:47	30°♄	
morning rise	469 Mar 28 j 17:07	29°♄15'08		opposition	475 Mar 16 j 17:33	27°♄02'09	1°41'59
	469 Mar 31 j 20:34	0°♄		min. Earth dist.	475 Mar 17 j 20:07	26°♄53'37	4.43761 AU
retrograde	469 Aug 07 j 20:10	19°♄45'05		direct	475 May 18 j 11:26	21°♄59'56	
min. Earth dist.	469 Oct 05 j 05:24	14°♄51'16	3.99520 AU		475 Aug 05 j 09:50	0°♄	
opposition	469 Oct 06 j 13:00	14°♄40'32	-1°-37'-54	evening set	475 Sep 21 j 23:34	9°♄37'18	
direct	469 Dec 03 j 10:26	9°♄44'47		max. Earth dist.	475 Oct 02 j 21:40	12°♄00'32	6.41475 AU
evening set	470 Apr 08 j 07:17	29°♄11'01					
	470 Apr 11 j 18:51	0°♄		conjunction	475 Oct 04 j 17:55	12°♄24'48	1°07'09
				minimum elong	475 Oct 04 j 17:56	12°♄24'48	1°07'09
conjunction	470 Apr 21 j 22:42	2°♄23'28	0°-55'-4	morning rise	475 Oct 17 j 09:38	15°♄11'10	
minimum elong	470 Apr 21 j 22:45	2°♄23'30	0°55'04		476 Jan 07 j 17:31	0°♄	

retrograde	476 Feb 15 j 07:41	2°♄14'26		min. Earth dist.	481 Oct 10 j 07:57	20°♃08'09	4.00042 AU
	476 Mar 25 j 09:04	30°♄		opposition	481 Oct 11 j 16:59	19°♃56'54	-1°-34'-12
opposition	476 Apr 16 j 04:44	27°♄22'38	1°26'34	direct	481 Dec 08 j 15:02	15°♃00'45	
min. Earth dist.	476 Apr 17 j 15:00	27°♄11'43	4.37752 AU		482 Mar 25 j 09:17	0°♄	
direct	476 Jun 17 j 18:44	22°♄22'17		evening set	482 Apr 13 j 14:49	4°♄25'18	
	476 Sep 01 j 21:00	0°♄					
evening set	476 Oct 21 j 18:11	10°♄14'58		conjunction	482 Apr 27 j 07:14	7°♄37'39	0°-51'-3
max. Earth dist.	476 Nov 01 j 08:48	12°♄37'24	6.32477 AU	minimum elong	482 Apr 27 j 07:17	7°♄37'41	0°51'04
				max. Earth dist.	482 Apr 29 j 14:06	8°♄09'50	6.04777 AU
conjunction	476 Nov 03 j 09:36	13°♄04'48	0°47'00	morning rise	482 May 11 j 01:34	10°♄50'49	
minimum elong	476 Nov 03 j 09:38	13°♄04'50	0°46'59		482 May 29 j 05:21	15°♄	
	476 Nov 11 j 22:45	15°♄			482 Aug 31 j 03:21	0°♄	
morning rise	476 Nov 15 j 23:37	15°♄54'11		retrograde	482 Sep 17 j 11:12	0°♄29'32	
	477 Jan 28 j 07:49	0°♄			482 Oct 04 j 14:16	30°♄	
retrograde	477 Mar 19 j 06:53	3°♄39'13		opposition	482 Nov 15 j 23:36	25°♄24'43	0°-51'-6
	477 May 09 j 12:45	30°♄		min. Earth dist.	482 Nov 14 j 15:17	25°♄35'44	4.10919 AU
opposition	477 May 19 j 05:05	28°♄46'49	0°45'38	direct	483 Jan 13 j 15:53	20°♄25'30	
min. Earth dist.	477 May 20 j 15:14	28°♄35'55	4.26230 AU		483 Apr 06 j 21:23	0°♄	
direct	477 Jul 20 j 01:04	23°♄48'56		evening set	483 May 20 j 04:54	9°♄17'45	
	477 Sep 24 j 11:57	0°♄					
evening set	477 Nov 22 j 09:52	12°♄10'18		conjunction	483 Jun 02 j 23:17	12°♄25'13	0°-15'-17
max. Earth dist.	477 Dec 03 j 09:35	14°♄42'23	6.19400 AU	minimum elong	483 Jun 02 j 23:18	12°♄25'13	0°15'17
				behind sun begin	483 Jun 02 j 21:15	12°♄24'04	
conjunction	477 Dec 05 j 01:49	15°♄05'39	0°12'09	behind sun end	483 Jun 03 j 01:21	12°♄26'23	
minimum elong	477 Dec 05 j 01:49	15°♄05'40	0°12'08	max. Earth dist.	483 Jun 04 j 19:31	12°♄50'20	6.17755 AU
behind sun begin	477 Dec 04 j 20:19	15°♄02'30		morning rise	483 Jun 16 j 17:57	15°♄32'29	
behind sun end	477 Dec 05 j 07:19	15°♄08'50			483 Aug 29 j 15:05	0°♄	
morning rise	477 Dec 17 j 17:52	18°♄01'20		retrograde	483 Oct 20 j 12:18	4°♄03'22	
	478 Feb 12 j 19:00	0°♄		asc. node	483 Nov 01 j 21:31	3°♄48'05	
desc. node	478 Apr 03 j 10:57	6°♄10'45			483 Dec 11 j 20:35	30°♄	
retrograde	478 Apr 23 j 09:25	6°♄48'01		min. Earth dist.	483 Dec 18 j 06:20	29°♄08'30	4.24635 AU
opposition	478 Jun 23 j 04:51	1°♄53'23	0°-12'-19	opposition	483 Dec 19 j 04:12	29°♄01'08	0°06'58
min. Earth dist.	478 Jun 24 j 01:34	1°♄46'42	4.12462 AU	direct	484 Feb 17 j 02:14	23°♄59'22	
	478 Jul 08 j 05:50	30°♄			484 Apr 22 j 10:26	0°♄	
direct	478 Aug 22 j 15:57	26°♄58'08		evening set	484 Jun 23 j 01:17	12°♄16'11	
	478 Oct 06 j 02:13	0°♄					
evening set	478 Dec 25 j 17:56	15°♄55'12		conjunction	484 Jul 06 j 15:57	15°♄16'17	0°24'05
				minimum elong	484 Jul 06 j 15:56	15°♄16'16	0°24'05
conjunction	479 Jan 07 j 13:24	18°♄57'39	0°-28'-15	max. Earth dist.	484 Jul 07 j 12:49	15°♄27'49	6.31163 AU
minimum elong	479 Jan 07 j 13:22	18°♄57'38	0°28'15	morning rise	484 Jul 20 j 04:50	18°♄15'18	
max. Earth dist.	479 Jan 06 j 20:59	18°♄47'53	6.06193 AU		484 Sep 17 j 07:55	0°♄	
morning rise	479 Jan 20 j 10:29	22°♄01'11		retrograde	484 Nov 19 j 19:45	5°♄47'18	
	479 Feb 24 j 13:57	0°♄		opposition	485 Jan 18 j 17:07	0°♄48'53	0°59'31
retrograde	479 May 30 j 14:25	11°♄53'15		min. Earth dist.	485 Jan 18 j 12:31	0°♄50'25	4.36650 AU
opposition	479 Jul 30 j 00:17	6°♄55'05	-1°-9'-30		485 Jan 24 j 21:29	30°♄	
min. Earth dist.	479 Jul 30 j 01:18	6°♄54'45	4.01001 AU	direct	485 Mar 20 j 23:31	25°♄45'52	
direct	479 Sep 27 j 02:14	2°♄01'30			485 May 14 j 22:14	0°♄	
	480 Jan 02 j 07:20	15°♄		evening set	485 Jul 26 j 01:05	13°♄35'22	
evening set	480 Jan 30 j 03:11	21°♄29'17			485 Aug 01 j 13:30	15°♄	
conjunction	480 Feb 12 j 04:50	24°♄38'18	0°-59'-50	conjunction	485 Aug 08 j 08:13	16°♄28'23	0°54'46
minimum elong	480 Feb 12 j 04:48	24°♄38'16	0°59'51	minimum elong	485 Aug 08 j 08:10	16°♄28'21	0°54'46
max. Earth dist.	480 Feb 12 j 19:41	24°♄47'15	5.97521 AU	max. Earth dist.	485 Aug 08 j 00:18	16°♄24'05	6.40850 AU
morning rise	480 Feb 25 j 09:22	27°♄48'57		morning rise	485 Aug 21 j 12:40	19°♄19'57	
	480 Mar 05 j 13:33	0°♄			485 Oct 14 j 10:02	0°♄	
retrograde	480 Jul 06 j 16:52	18°♄22'47		retrograde	485 Dec 20 j 03:04	6°♄16'03	
opposition	480 Sep 04 j 15:54	13°♄20'42	-1°-42'-3	opposition	486 Feb 18 j 09:11	1°♄21'08	1°33'14
min. Earth dist.	480 Sep 03 j 19:16	13°♄27'37	3.96206 AU	min. Earth dist.	486 Feb 18 j 22:35	1°♄16'46	4.43490 AU
direct	480 Nov 01 j 17:11	8°♄26'51			486 Feb 28 j 21:52	30°♄	
evening set	481 Mar 07 j 03:39	28°♄05'55		direct	486 Apr 21 j 15:49	26°♄18'01	
	481 Mar 15 j 02:04	0°♄			486 Jun 12 j 07:51	0°♄	
				evening set	486 Aug 26 j 13:28	13°♄54'11	
conjunction	481 Mar 20 j 13:03	1°♄18'42	-1°-8'-49	max. Earth dist.	486 Sep 07 j 06:14	16°♄26'01	6.44264 AU
minimum elong	481 Mar 20 j 13:03	1°♄18'42	1°08'50				
max. Earth dist.	481 Mar 22 j 07:12	1°♄44'01	5.96954 AU	conjunction	486 Sep 08 j 12:53	16°♄42'39	1°09'33
morning rise	481 Apr 03 j 01:44	4°♄33'06		minimum elong	486 Sep 08 j 12:52	16°♄42'39	1°09'33
retrograde	481 Aug 13 j 00:42	25°♄01'45		morning rise	486 Sep 21 j 09:10	19°♄29'41	

	486 Nov 13 j 10:13	0°♄		max. Earth dist.	492 Feb 18 j 05:58	0°♄09'19	5.96901 AU
retrograde	487 Jan 19 j 11:19	6°♄17'30		morning rise	492 Mar 01 j 16:34	3°♄09'12	
opposition	487 Mar 21 j 02:28	1°♄24'58	1°41'26	retrograde	492 Jul 12 j 01:50	23°♄45'16	
min. Earth dist.	487 Mar 22 j 06:08	1°♄16'06	4.43403 AU	min. Earth dist.	492 Sep 09 j 01:01	18°♄50'29	3.96311 AU
	487 Apr 01 j 07:22	30°♄		opposition	492 Sep 10 j 00:25	18°♄42'36	-1°-43'-29
direct	487 May 22 j 20:02	26°♄22'59		direct	492 Nov 07 j 00:25	13°♄48'31	
	487 Jul 12 j 22:26	0°♄			493 Feb 25 j 21:36	0°♄	
evening set	487 Sep 26 j 07:21	14°♄01'23		evening set	493 Mar 12 j 11:54	3°♄26'29	
max. Earth dist.	487 Oct 07 j 02:11	16°♄23'13	6.40587 AU				
				conjunction	493 Mar 25 j 22:32	6°♄39'24	-1°-7'-49
conjunction	487 Oct 09 j 00:56	16°♄48'56	1°05'22	minimum elong	493 Mar 25 j 22:33	6°♄39'25	1°07'50
minimum elong	487 Oct 09 j 00:58	16°♄48'57	1°05'21	max. Earth dist.	493 Mar 27 j 21:29	7°♄07'31	5.97778 AU
morning rise	487 Oct 21 j 16:19	19°♄35'30		morning rise	493 Apr 08 j 12:03	9°♄53'48	
	487 Dec 12 j 07:00	0°♄			493 Aug 05 j 06:29	0°♄	
retrograde	488 Feb 19 j 21:45	6°♄43'07		retrograde	493 Aug 18 j 05:24	0°♄16'35	
opposition	488 Apr 20 j 18:00	1°♄51'20	1°22'11		493 Aug 31 j 01:24	30°♄	
min. Earth dist.	488 Apr 22 j 05:55	1°♄39'54	4.36372 AU	min. Earth dist.	493 Oct 15 j 10:44	25°♄22'57	4.01490 AU
	488 May 05 j 16:04	30°♄		opposition	493 Oct 16 j 20:11	25°♄11'33	-1°-29'-48
direct	488 Jun 22 j 07:10	26°♄51'15		direct	493 Dec 13 j 20:24	20°♄14'59	
	488 Aug 08 j 06:06	0°♄			494 Mar 06 j 11:29	0°♄	
evening set	488 Oct 26 j 03:40	14°♄47'26		evening set	494 Apr 18 j 20:53	9°♄34'30	
	488 Oct 27 j 02:09	15°♄					
max. Earth dist.	488 Nov 05 j 18:13	17°♄10'24	6.30718 AU	conjunction	494 May 02 j 13:43	12°♄46'12	0°-46'-45
				minimum elong	494 May 02 j 13:46	12°♄46'14	0°46'46
conjunction	488 Nov 07 j 19:04	17°♄37'56	0°42'46	max. Earth dist.	494 May 04 j 19:45	13°♄17'43	6.06686 AU
minimum elong	488 Nov 07 j 19:06	17°♄37'57	0°42'47		494 May 12 j 03:24	15°♄	
morning rise	488 Nov 20 j 09:08	20°♄28'03		morning rise	494 May 16 j 08:33	15°♄58'38	
	489 Jan 04 j 16:24	0°♄			494 Jul 23 j 11:55	0°♄	
retrograde	489 Mar 24 j 01:46	8°♄21'05		retrograde	494 Sep 22 j 04:36	5°♄26'57	
opposition	489 May 24 j 00:35	3°♄28'27	0°38'08	min. Earth dist.	494 Nov 19 j 10:38	0°♄33'12	4.13074 AU
min. Earth dist.	489 May 25 j 08:50	3°♄18'09	4.24206 AU	opposition	494 Nov 20 j 18:35	0°♄22'19	0°-43'-16
	489 Jun 23 j 05:36	30°♄			494 Nov 23 j 12:12	30°♄	
direct	489 Jul 24 j 15:13	28°♄30'57		direct	495 Jan 18 j 14:28	25°♄22'39	
	489 Aug 24 j 21:51	0°♄			495 Mar 15 j 00:54	0°♄	
evening set	489 Nov 27 j 00:34	16°♄57'41		evening set	495 May 25 j 04:42	14°♄08'41	
max. Earth dist.	489 Dec 08 j 03:31	19°♄32'21	6.17293 AU				
				conjunction	495 Jun 07 j 22:51	17°♄15'03	0°-9'-39
conjunction	489 Dec 09 j 16:50	19°♄54'03	0°06'28	minimum elong	495 Jun 07 j 22:52	17°♄15'03	0°09'40
minimum elong	489 Dec 09 j 16:50	19°♄54'03	0°06'27	behind sun begin	495 Jun 07 j 16:04	17°♄11'13	
behind sun begin	489 Dec 09 j 09:19	19°♄49'42		behind sun end	495 Jun 08 j 05:41	17°♄18'53	
behind sun end	489 Dec 10 j 00:22	19°♄58'25		max. Earth dist.	495 Jun 09 j 16:10	17°♄38'24	6.19980 AU
morning rise	489 Dec 22 j 09:25	22°♄50'51		morning rise	495 Jun 21 j 16:51	20°♄21'03	
	490 Jan 23 j 11:10	0°♄			495 Aug 06 j 12:12	0°♄	
desc. node	490 Feb 10 j 11:25	3°♄36'38		asc. node	495 Sep 11 j 17:22	5°♄49'11	
retrograde	490 Apr 28 j 14:35	11°♄47'38		retrograde	495 Oct 25 j 00:14	8°♄41'54	
opposition	490 Jun 28 j 08:00	6°♄52'35	0°-21'-3	opposition	495 Dec 23 j 15:54	3°♄40'11	0°15'02
min. Earth dist.	490 Jun 29 j 03:04	6°♄46'25	4.10431 AU	min. Earth dist.	495 Dec 22 j 21:09	3°♄46'30	4.26711 AU
direct	490 Aug 27 j 15:06	1°♄57'38			496 Jan 23 j 11:30	30°♄	
evening set	490 Dec 30 j 15:50	21°♄00'18		direct	496 Feb 21 j 19:28	28°♄38'10	
					496 Mar 22 j 12:02	0°♄	
conjunction	491 Jan 12 j 12:05	24°♄03'51	0°-33'-39	evening set	496 Jun 27 j 18:03	16°♄49'55	
minimum elong	491 Jan 12 j 12:02	24°♄03'49	0°33'39				
max. Earth dist.	491 Jan 11 j 23:41	23°♄56'27	6.04444 AU	conjunction	496 Jul 11 j 07:47	19°♄48'53	0°29'05
morning rise	491 Jan 25 j 10:09	27°♄08'36		minimum elong	496 Jul 11 j 07:45	19°♄48'52	0°29'06
	491 Feb 06 j 13:57	0°♄		max. Earth dist.	496 Jul 12 j 00:07	19°♄57'52	6.32920 AU
	491 Apr 28 j 14:58	15°♄		morning rise	496 Jul 24 j 19:36	22°♄46'43	
retrograde	491 Jun 04 j 23:55	17°♄09'08			496 Aug 28 j 06:01	0°♄	
	491 Jul 12 j 11:59	15°♄		retrograde	496 Nov 24 j 00:53	10°♄12'00	
opposition	491 Aug 04 j 08:41	12°♄10'27	-1°-16'-12	opposition	497 Jan 23 j 00:09	5°♄14'06	1°05'33
min. Earth dist.	491 Aug 04 j 05:34	12°♄11'28	3.99757 AU	min. Earth dist.	497 Jan 22 j 22:02	5°♄14'48	4.37985 AU
direct	491 Oct 02 j 05:23	7°♄17'00		direct	497 Mar 25 j 09:44	0°♄10'58	
	491 Dec 13 j 03:39	15°♄			497 Jul 16 j 13:46	15°♄	
evening set	492 Feb 04 j 08:18	26°♄48'04		evening set	497 Jul 30 j 11:59	17°♄57'54	
conjunction	492 Feb 17 j 10:53	29°♄57'47	-1°-2'-44	conjunction	497 Aug 12 j 18:04	20°♄50'09	0°57'53
minimum elong	492 Feb 17 j 10:51	29°♄57'46	1°02'44	minimum elong	497 Aug 12 j 18:02	20°♄50'07	0°57'52
	492 Feb 17 j 14:32	0°♄		max. Earth dist.	497 Aug 12 j 06:46	20°♄44'00	6.41662 AU

morning rise	497 Aug 25 j 21:14	23°♌40'54			503 Nov 15 j 02:51	15°♏	
	497 Sep 25 j 05:00	0°♎			504 Jan 31 j 17:41	0°♏	
retrograde	497 Dec 24 j 08:39	10°♎34'38		evening set	504 Feb 09 j 12:56	2°♏06'00	
opposition	498 Feb 22 j 15:27	5°♎40'13	1°35'59				
min. Earth dist.	498 Feb 23 j 07:31	5°♎35'01	4.43748 AU	conjunction	504 Feb 22 j 16:41	5°♏16'17	-1°-5'-6
direct	498 Apr 26 j 00:21	0°♎37'16		minimum elong	504 Feb 22 j 16:39	5°♏16'16	1°05'06
evening set	498 Aug 30 j 21:17	18°♎13'31		max. Earth dist.	504 Feb 23 j 17:39	5°♏31'21	5.96748 AU
max. Earth dist.	498 Sep 11 j 08:32	20°♎42'39	6.43928 AU	morning rise	504 Mar 06 j 23:20	8°♏28'12	
				retrograde	504 Jul 17 j 10:06	29°♏04'20	
conjunction	498 Sep 12 j 19:39	21°♎01'44	1°10'06	min. Earth dist.	504 Sep 14 j 06:00	24°♏09'40	3.96807 AU
minimum elong	498 Sep 12 j 19:39	21°♎01'44	1°10'07	opposition	504 Sep 15 j 07:03	24°♏01'13	-1°-44'-2
morning rise	498 Sep 25 j 15:14	23°♎48'36		direct	504 Nov 12 j 05:58	19°♏06'55	
	498 Oct 25 j 06:05	0°♏			505 Feb 07 j 11:51	0°♑	
retrograde	499 Jan 23 j 20:36	10°♏38'30		evening set	505 Mar 17 j 18:18	8°♑42'35	
opposition	499 Mar 25 j 11:24	5°♏46'12	1°40'22				
min. Earth dist.	499 Mar 26 j 17:10	5°♏36'39	4.42519 AU	conjunction	505 Mar 31 j 05:46	11°♑55'26	-1°-6'-18
direct	499 May 27 j 05:03	0°♏44'25		minimum elong	505 Mar 31 j 05:48	11°♑55'27	1°06'18
evening set	499 Sep 30 j 15:06	18°♏25'35		max. Earth dist.	505 Apr 02 j 05:48	12°♑24'05	5.98840 AU
max. Earth dist.	499 Oct 11 j 09:35	20°♏47'40	6.39226 AU	morning rise	505 Apr 13 j 20:23	15°♑09'45	
					505 Jun 23 j 17:11	0°♒	
conjunction	499 Oct 13 j 08:23	21°♏13'31	1°03'13	retrograde	505 Aug 23 j 05:07	5°♒25'57	
minimum elong	499 Oct 13 j 08:25	21°♏13'32	1°03'13	min. Earth dist.	505 Oct 20 j 09:58	0°♒32'34	4.03007 AU
morning rise	499 Oct 25 j 23:15	24°♏00'29		opposition	505 Oct 21 j 20:32	0°♒20'47	-1°-24'-47
	499 Nov 23 j 02:41	0°♓			505 Oct 24 j 09:35	30°♒♑	
retrograde	500 Feb 24 j 11:10	11°♓14'04		direct	505 Dec 18 j 22:14	25°♑23'47	
opposition	500 Apr 25 j 08:20	6°♓22'19	1°17'18		506 Feb 11 j 07:07	0°♒	
min. Earth dist.	500 Apr 26 j 19:42	6°♓11'04	4.34628 AU	evening set	506 Apr 24 j 00:36	14°♒38'30	
direct	500 Jun 26 j 17:41	1°♓22'40			506 Apr 25 j 13:48	15°♒	
	500 Oct 10 j 15:09	15°♓					
evening set	500 Oct 30 j 14:37	19°♓23'32		conjunction	506 May 07 j 18:00	17°♒49'35	0°-42'-10
max. Earth dist.	500 Nov 10 j 05:39	21°♓47'30	6.28734 AU	minimum elong	506 May 07 j 18:02	17°♒49'37	0°42'11
				max. Earth dist.	506 May 09 j 22:59	18°♒20'23	6.08531 AU
conjunction	500 Nov 12 j 05:53	22°♓14'50	0°38'15	morning rise	506 May 21 j 12:58	21°♒01'15	
minimum elong	500 Nov 12 j 05:55	22°♓14'51	0°38'15		506 Jul 01 j 13:54	0°♑	
morning rise	500 Nov 24 j 20:15	25°♓05'52		retrograde	506 Sep 26 j 22:20	10°♑19'52	
	500 Dec 17 j 01:35	0°♑		min. Earth dist.	506 Nov 24 j 05:58	5°♑25'35	4.15037 AU
retrograde	501 Mar 29 j 01:31	13°♑07'54		opposition	506 Nov 25 j 11:30	5°♑15'32	0°-35'-18
opposition	501 May 28 j 22:37	8°♑15'01	0°30'15	direct	507 Jan 23 j 12:09	0°♑15'28	
min. Earth dist.	501 May 30 j 05:55	8°♑05'00	4.22106 AU	evening set	507 May 30 j 02:53	18°♑56'15	
direct	501 Jul 29 j 09:51	3°♑17'57					
evening set	501 Dec 01 j 16:57	21°♑50'07		conjunction	507 Jun 12 j 20:46	22°♑01'39	0°-4'-3
max. Earth dist.	501 Dec 12 j 23:58	24°♑27'50	6.15277 AU	minimum elong	507 Jun 12 j 20:47	22°♑01'39	0°04'04
				behind sun begin	507 Jun 12 j 12:33	21°♑57'03	
conjunction	501 Dec 14 j 09:44	24°♑47'32	0°00'37	behind sun end	507 Jun 13 j 05:01	22°♑06'16	
minimum elong	501 Dec 14 j 09:43	24°♑47'32	0°00'37	max. Earth dist.	507 Jun 14 j 11:29	22°♑23'26	6.21910 AU
behind sun begin	501 Dec 14 j 01:43	24°♑42'53		morning rise	507 Jun 26 j 14:12	25°♑06'34	
behind sun end	501 Dec 14 j 17:43	24°♑52'11			507 Jul 18 j 23:37	0°♒	
desc. node	501 Dec 20 j 04:56	26°♑08'49		asc. node	507 Jul 22 j 16:51	0°♒46'59	
morning rise	501 Dec 27 j 02:53	27°♑45'28		retrograde	507 Oct 29 j 08:51	13°♒18'38	
	502 Jan 05 j 20:23	0°♒		min. Earth dist.	507 Dec 27 j 09:22	8°♒23'12	4.28455 AU
retrograde	502 May 03 j 19:27	16°♒51'50		opposition	507 Dec 28 j 02:36	8°♒17'25	0°22'55
opposition	502 Jul 03 j 12:46	11°♒56'22	0°-29'-44	direct	508 Feb 26 j 09:31	3°♒15'10	
min. Earth dist.	502 Jul 04 j 04:05	11°♒51'24	4.08688 AU	evening set	508 Jul 02 j 10:04	21°♒22'57	
direct	502 Sep 01 j 14:05	7°♒01'48					
evening set	503 Jan 04 j 15:15	26°♒08'53		conjunction	508 Jul 15 j 22:49	24°♒20'55	0°33'55
				minimum elong	508 Jul 15 j 22:47	24°♒20'54	0°33'55
conjunction	503 Jan 17 j 12:06	29°♒13'19	0°-38'-50	max. Earth dist.	508 Jul 16 j 10:29	24°♒27'19	6.34348 AU
minimum elong	503 Jan 17 j 12:04	29°♒13'17	0°38'51	morning rise	508 Jul 29 j 09:33	27°♒17'42	
max. Earth dist.	503 Jan 17 j 04:01	29°♒08'28	6.03118 AU		508 Aug 10 j 22:31	0°♓	
	503 Jan 20 j 18:07	0°♓		retrograde	508 Nov 28 j 08:25	14°♓37'30	
morning rise	503 Jan 30 j 11:09	2°♓19'03		opposition	509 Jan 27 j 07:46	9°♓40'08	1°11'12
	503 Mar 29 j 20:31	15°♓		min. Earth dist.	509 Jan 27 j 09:04	9°♓39'42	4.39007 AU
retrograde	503 Jun 10 j 09:33	22°♓26'11		direct	509 Mar 29 j 22:00	4°♓36'57	
opposition	503 Aug 09 j 16:54	17°♓26'51	-1°-22'-16		509 Jun 29 j 06:02	15°♓	
min. Earth dist.	503 Aug 09 j 10:28	17°♓28'59	3.98990 AU	evening set	509 Aug 03 j 23:10	22°♓22'00	
	503 Aug 29 j 02:53	15°♒					
direct	503 Oct 07 j 10:27	12°♒33'25		conjunction	509 Aug 17 j 04:11	25°♓13'35	1°00'41

minimum elong	509 Aug 17 j 04:09	25°♏13'34	1°00'40	opposition	515 Aug 14 j 22:18	22°≈35'46	-1°-27'-27
max. Earth dist.	509 Aug 16 j 12:52	25°♏05'17	6.42187 AU	min. Earth dist.	515 Aug 14 j 13:26	22°≈38'42	3.98611 AU
morning rise	509 Aug 30 j 06:15	28°♏03'42		direct	515 Oct 12 j 12:33	17°≈42'22	
	509 Sep 08 j 07:31	0°♐			516 Jan 14 j 08:33	0°♐	
retrograde	509 Dec 28 j 14:29	14°♐55'54		evening set	516 Feb 14 j 14:57	7°♐15'15	
opposition	510 Feb 26 j 22:48	10°♐01'48	1°38'14				
min. Earth dist.	510 Feb 27 j 16:39	9°♐56'02	4.43782 AU	conjunction	516 Feb 27 j 19:29	10°♐25'51	-1°-6'-51
direct	510 Apr 30 j 09:03	4°♐58'56		minimum elong	516 Feb 27 j 19:28	10°♐25'50	1°06'53
evening set	510 Sep 04 j 05:56	22°♐35'42		max. Earth dist.	516 Feb 28 j 22:41	10°♐42'16	5.96879 AU
max. Earth dist.	510 Sep 15 j 15:08	25°♐03'56	6.43470 AU	morning rise	516 Mar 12 j 03:20	13°♐38'12	
					516 May 30 j 15:46	0°♑	
conjunction	510 Sep 17 j 03:31	25°♐23'45	1°10'17	retrograde	516 Jul 22 j 12:08	4°♑13'09	
minimum elong	510 Sep 17 j 03:31	25°♐23'45	1°10'17		516 Sep 14 j 03:48	30°♑	
morning rise	510 Sep 29 j 22:11	28°♐10'28		min. Earth dist.	516 Sep 19 j 05:53	29°♑18'57	3.97457 AU
	510 Oct 08 j 09:56	0°♑		opposition	516 Sep 20 j 09:23	29°♑09'40	-1°-43'-43
retrograde	511 Jan 28 j 05:57	15°♑02'42		direct	516 Nov 17 j 07:21	24°♑15'03	
opposition	511 Mar 29 j 21:51	10°♑10'36	1°38'44		517 Jan 17 j 02:58	0°♒	
min. Earth dist.	511 Mar 31 j 04:49	10°♑00'42	4.41612 AU	evening set	517 Mar 22 j 21:14	13°♒48'20	
direct	511 May 31 j 15:11	5°♑09'09					
evening set	511 Oct 04 j 23:51	22°♑52'43		conjunction	517 Apr 05 j 09:45	17°♒01'08	-1°-4'-18
max. Earth dist.	511 Oct 15 j 16:00	25°♑14'04	6.37943 AU	minimum elong	517 Apr 05 j 09:47	17°♒01'09	1°04'19
				max. Earth dist.	517 Apr 07 j 11:14	17°♒30'35	5.99942 AU
conjunction	511 Oct 17 j 16:34	25°♑40'58	1°00'41	morning rise	517 Apr 19 j 01:04	20°♒15'17	
minimum elong	511 Oct 17 j 16:35	25°♑40'59	1°00'41		517 Jun 01 j 16:46	0°♓	
morning rise	511 Oct 30 j 07:19	28°♑28'22		retrograde	517 Aug 28 j 02:57	10°♓25'01	
	511 Nov 06 j 06:31	0°♓		min. Earth dist.	517 Oct 25 j 07:40	5°♓31'13	4.04422 AU
	512 Feb 06 j 10:11	15°♓		opposition	517 Oct 26 j 16:59	5°♓19'52	-1°-19'-21
retrograde	512 Feb 29 j 03:24	15°♓47'43		direct	517 Dec 23 j 21:45	0°♓22'27	
	512 Mar 22 j 20:33	15°♓			518 Apr 08 j 22:29	15°♓	
opposition	512 Apr 30 j 00:20	10°♓55'53	1°11'54	evening set	518 Apr 29 j 00:55	19°♓33'10	
min. Earth dist.	512 May 01 j 11:34	10°♓44'39	4.33056 AU				
direct	512 Jul 01 j 07:49	5°♓56'36		conjunction	518 May 12 j 18:48	22°♓43'46	0°-37'-28
	512 Sep 22 j 12:22	15°♓		minimum elong	518 May 12 j 18:51	22°♓43'47	0°37'28
evening set	512 Nov 04 j 02:03	24°♓01'12		max. Earth dist.	518 May 14 j 23:03	23°♓13'59	6.10143 AU
max. Earth dist.	512 Nov 14 j 20:05	26°♓27'24	6.27032 AU	morning rise	518 May 26 j 13:58	25°♓54'46	
					518 Jun 13 j 16:43	0°♔	
conjunction	512 Nov 16 j 17:28	26°♓53'13	0°33'29	retrograde	518 Oct 01 j 11:27	15°♔04'56	
minimum elong	512 Nov 16 j 17:30	26°♓53'14	0°33'28	min. Earth dist.	518 Nov 28 j 20:37	10°♔10'47	4.16691 AU
morning rise	512 Nov 29 j 07:53	29°♓45'01		opposition	518 Nov 30 j 01:24	10°♔01'00	0°-27'-22
	512 Nov 30 j 10:23	0°♕		direct	519 Jan 28 j 04:29	5°♔00'39	
retrograde	513 Apr 02 j 22:44	17°♕54'51		asc. node	519 Jun 02 j 19:45	23°♔22'37	
opposition	513 Jun 02 j 20:46	13°♕01'43	0°22'10	evening set	519 Jun 03 j 22:39	23°♔37'36	
min. Earth dist.	513 Jun 04 j 01:46	12°♕52'27	4.20399 AU				
direct	513 Aug 03 j 03:32	8°♕05'06		conjunction	519 Jun 17 j 16:03	26°♔42'09	0°01'32
desc. node	513 Oct 29 j 19:57	18°♕23'12		minimum elong	519 Jun 17 j 16:04	26°♔42'09	0°01'32
evening set	513 Dec 06 j 09:22	26°♕41'14		behind sun begin	519 Jun 17 j 07:42	26°♔37'30	
max. Earth dist.	513 Dec 17 j 19:20	29°♕21'15	6.13718 AU	behind sun end	519 Jun 18 j 00:25	26°♔46'49	
				max. Earth dist.	519 Jun 19 j 02:04	27°♔01'14	6.23484 AU
conjunction	513 Dec 19 j 02:22	29°♕39'26	0°-5'-12	morning rise	519 Jul 01 j 08:57	29°♔46'09	
minimum elong	513 Dec 19 j 02:20	29°♕39'25	0°05'13		519 Jul 02 j 09:53	0°♕	
behind sun begin	513 Dec 18 j 18:34	29°♕34'54		retrograde	519 Nov 02 j 18:30	17°♕51'08	
behind sun end	513 Dec 19 j 10:06	29°♕43'57		opposition	520 Jan 01 j 11:53	12°♕50'28	0°30'28
	513 Dec 20 j 13:28	0°♖		min. Earth dist.	519 Dec 31 j 21:53	12°♕55'10	4.29829 AU
morning rise	513 Dec 31 j 20:13	2°♖38'18		direct	520 Mar 01 j 23:49	7°♖48'03	
retrograde	514 May 08 j 23:45	21°♖52'34		evening set	520 Jul 07 j 00:49	25°♖53'13	
opposition	514 Jul 08 j 16:15	16°♖56'34	0°-38'-3				
min. Earth dist.	514 Jul 09 j 04:30	16°♖52'35	4.07403 AU	conjunction	520 Jul 20 j 12:47	28°♖50'24	0°38'26
direct	514 Sep 06 j 13:52	12°♖02'13		minimum elong	520 Jul 20 j 12:45	28°♖50'23	0°38'25
	515 Jan 04 j 11:09	0°♗		max. Earth dist.	520 Jul 20 j 21:47	28°♖55'20	6.35431 AU
evening set	515 Jan 09 j 12:51	1°≈12'08			520 Jul 25 j 19:45	0°♘	
				morning rise	520 Aug 02 j 22:20	1°♘46'17	
conjunction	515 Jan 22 j 10:35	4°≈17'17	0°-43'-35		520 Oct 11 j 09:59	15°♘	
minimum elong	515 Jan 22 j 10:33	4°≈17'16	0°43'37	retrograde	520 Dec 02 j 13:23	19°♘01'48	
max. Earth dist.	515 Jan 22 j 08:12	4°≈15'51	6.02230 AU		521 Jan 24 j 14:16	15°♙	
morning rise	515 Feb 04 j 10:24	7°≈23'47		opposition	521 Jan 31 j 14:39	14°♙04'58	1°16'22
	515 Mar 09 j 13:39	15°≈		min. Earth dist.	521 Jan 31 j 17:19	14°♙04'05	4.39762 AU
retrograde	515 Jun 15 j 16:27	27°≈35'37		direct	521 Apr 03 j 07:09	9°♙01'48	

	521 Jun 09 j 00:03	15°♏		max. Earth dist.	527 Jan 27 j 09:16	9°≈21'45	6.01018 AU
evening set	521 Aug 08 j 09:54	26°♏45'47		morning rise	527 Feb 09 j 10:08	12°≈29'10	
					527 Feb 20 j 01:06	15°≈	
conjunction	521 Aug 21 j 13:46	29°♏36'47	1°03'05		527 May 09 j 07:44	0°♐	
minimum elong	521 Aug 21 j 13:44	29°♏36'46	1°03'06	retrograde	527 Jun 20 j 21:54	2°♐46'54	
max. Earth dist.	521 Aug 20 j 19:03	29°♏26'37	6.42557 AU		527 Aug 02 j 18:44	30°♐≈	
	521 Aug 23 j 08:33	0°♐		opposition	527 Aug 20 j 03:30	27°≈46'27	-1°-32'-5
morning rise	521 Sep 03 j 14:47	2°♐26'18		min. Earth dist.	527 Aug 19 j 15:10	27°≈50'33	3.97859 AU
retrograde	522 Jan 01 j 21:43	19°♐17'29		direct	527 Oct 17 j 13:43	22°≈52'57	
opposition	522 Mar 03 j 06:27	14°♐23'46	1°39'54		527 Dec 25 j 02:08	0°♐	
min. Earth dist.	522 Mar 04 j 02:52	14°♐17'11	4.43761 AU	evening set	528 Feb 19 j 18:21	12°♐27'52	
direct	522 May 04 j 19:29	9°♐21'03					
evening set	522 Sep 08 j 14:05	26°♐58'08		conjunction	528 Mar 04 j 00:09	15°♐39'06	-1°-8'-8
max. Earth dist.	522 Sep 19 j 20:02	29°♐24'51	6.43038 AU	minimum elong	528 Mar 04 j 00:08	15°♐39'05	1°08'09
				max. Earth dist.	528 Mar 05 j 07:49	15°♐58'12	5.96653 AU
conjunction	522 Sep 21 j 10:50	29°♐46'01	1°10'03	morning rise	528 Mar 17 j 09:01	18°♐52'01	
minimum elong	522 Sep 21 j 10:51	29°♐46'01	1°10'02		528 May 06 j 04:04	0°♐	
	522 Sep 22 j 12:29	0°♑		retrograde	528 Jul 27 j 18:35	9°♐27'01	
morning rise	522 Oct 04 j 04:48	2°♑32'37		min. Earth dist.	528 Sep 24 j 09:20	4°♐32'37	3.97780 AU
retrograde	523 Feb 01 j 14:47	19°♑27'03		opposition	528 Sep 25 j 13:24	4°♐23'07	-1°-42'-37
opposition	523 Apr 03 j 08:12	14°♑35'01	1°36'30		528 Nov 04 j 22:01	30°♐♐	
min. Earth dist.	523 Apr 04 j 15:36	14°♑24'59	4.40800 AU	direct	528 Nov 22 j 11:47	29°♐28'08	
direct	523 Jun 05 j 00:56	9°♑33'46			528 Dec 10 j 00:41	0°♐	
evening set	523 Oct 09 j 07:51	27°♑19'12		evening set	529 Mar 28 j 02:50	19°♐00'15	
max. Earth dist.	523 Oct 20 j 00:49	29°♑41'22	6.36801 AU				
	523 Oct 21 j 10:20	0°♒		conjunction	529 Apr 10 j 16:24	22°♐13'08	-1°-1'-46
conjunction	523 Oct 22 j 00:14	0°♒07'43	0°57'47	minimum elong	529 Apr 10 j 16:26	22°♐13'10	1°01'47
minimum elong	523 Oct 22 j 00:16	0°♒07'44	0°57'48	max. Earth dist.	529 Apr 12 j 19:59	22°♐43'44	6.00777 AU
morning rise	523 Nov 03 j 14:34	2°♒55'27		morning rise	529 Apr 24 j 08:39	25°♐27'17	
	524 Jan 03 j 11:52	15°♒			529 May 14 j 00:49	0°♒	
retrograde	524 Mar 04 j 17:20	20°♒19'58		retrograde	529 Aug 15 j 07:57	15°♒	
opposition	524 May 04 j 15:19	15°♒28'02	1°06'04		529 Sep 02 j 02:11	15°♒31'04	
min. Earth dist.	524 May 06 j 02:33	15°♒16'49	4.31620 AU	min. Earth dist.	529 Sep 19 j 16:49	15°♒♒	
	524 May 08 j 07:30	15°♒♒		opposition	529 Oct 30 j 05:49	10°♒37'34	4.05682 AU
direct	524 Jul 05 j 20:56	10°♒29'05		direct	529 Oct 31 j 15:55	10°♒25'56	-1°-13'-12
	524 Aug 31 j 09:49	15°♒			529 Dec 28 j 21:23	5°♒28'08	
evening set	524 Nov 08 j 12:26	28°♒36'57		evening set	530 Mar 21 j 02:51	15°♒	
	524 Nov 14 j 14:41	0°♓			530 May 04 j 04:50	24°♒35'22	
max. Earth dist.	524 Nov 19 j 06:17	1°♓03'39	6.25394 AU	conjunction	530 May 17 j 22:57	27°♒45'23	0°-32'-20
conjunction	524 Nov 21 j 03:44	1°♓29'36	0°28'32	minimum elong	530 May 17 j 22:59	27°♒45'25	0°32'21
minimum elong	524 Nov 21 j 03:46	1°♓29'37	0°28'32	max. Earth dist.	530 May 20 j 00:38	28°♒14'02	6.11726 AU
morning rise	524 Dec 03 j 18:35	4°♓22'14			530 May 27 j 16:57	0°♓	
retrograde	525 Apr 07 j 19:58	22°♓39'54		morning rise	530 May 31 j 18:19	0°♓55'43	
opposition	525 Jun 07 j 17:49	17°♓46'23	0°13'57	retrograde	530 Oct 06 j 04:11	19°♓57'12	
min. Earth dist.	525 Jun 08 j 21:00	17°♓37'40	4.18644 AU	opposition	530 Dec 04 j 18:15	14°♓53'38	0°-19'-2
direct	525 Aug 07 j 20:44	12°♓50'01		min. Earth dist.	530 Dec 03 j 15:18	15°♓02'47	4.18442 AU
desc. node	525 Sep 08 j 18:55	14°♓24'28		direct	531 Feb 02 j 02:16	9°♓52'56	
	525 Dec 04 j 12:30	0°♔		asc. node	531 Apr 12 j 00:08	16°♓37'07	
evening set	525 Dec 11 j 00:29	1°♔30'28		evening set	531 Jun 08 j 21:24	28°♓25'28	
					531 Jun 15 j 23:07	0°♕	
conjunction	525 Dec 23 j 18:05	4°♔29'36	0°-10'-53	conjunction	531 Jun 22 j 14:29	1°♕29'04	0°07'11
minimum elong	525 Dec 23 j 18:04	4°♔29'36	0°10'54	minimum elong	531 Jun 22 j 14:29	1°♕29'04	0°07'12
behind sun begin	525 Dec 23 j 11:55	4°♔26'00		behind sun begin	531 Jun 22 j 06:52	1°♕24'49	
behind sun end	525 Dec 24 j 00:13	4°♔33'11		behind sun end	531 Jun 22 j 22:06	1°♕33'18	
max. Earth dist.	525 Dec 22 j 15:16	4°♔13'51	6.12003 AU	max. Earth dist.	531 Jun 23 j 23:22	1°♕47'26	6.25313 AU
morning rise	526 Jan 05 j 12:28	7°♔29'28		morning rise	531 Jul 06 j 06:27	4°♕31'54	
retrograde	526 May 14 j 04:28	26°♔52'20		retrograde	531 Nov 07 j 04:31	22°♕28'33	
opposition	526 Jul 13 j 18:53	21°♔55'51	0°-46'-9	opposition	532 Jan 05 j 23:23	17°♕28'28	0°38'00
min. Earth dist.	526 Jul 14 j 05:07	21°♔52'31	4.05879 AU	min. Earth dist.	532 Jan 05 j 10:23	17°♕32'48	4.31610 AU
direct	526 Sep 11 j 11:54	17°♔01'43		direct	532 Mar 06 j 15:12	12°♕25'56	
	526 Dec 18 j 10:24	0°≈			532 Jul 09 j 15:53	0°♌	
evening set	527 Jan 14 j 10:45	6°≈15'40		evening set	532 Jul 11 j 17:12	0°♌26'43	
conjunction	527 Jan 27 j 09:09	9°≈21'41	0°-48'-4	conjunction	532 Jul 25 j 03:53	3°♌22'46	0°42'48
minimum elong	527 Jan 27 j 09:06	9°≈21'39	0°48'04	minimum elong	532 Jul 25 j 03:51	3°♌22'44	0°42'48

max. Earth dist.	532 Jul 25 j 08:23	3°♏25'13	6.37044 AU	opposition	538 Jul 18 j 18:50	26°♁49'25	0°-53'-43
morning rise	532 Aug 07 j 12:21	6°♏17'29		min. Earth dist.	538 Jul 19 j 01:55	26°♁47'06	4.03943 AU
	532 Sep 19 j 00:24	15°♏		direct	538 Sep 16 j 05:49	21°♁55'28	
retrograde	532 Dec 06 j 20:43	23°♏26'57			538 Nov 29 j 13:17	0°♁	
opposition	533 Feb 04 j 22:46	18°♏30'35	1°21'06	evening set	539 Jan 19 j 07:11	11°♁15'34	
min. Earth dist.	533 Feb 05 j 04:21	18°♏28'45	4.41114 AU				
	533 Mar 06 j 17:40	15°♏		conjunction	539 Feb 01 j 06:42	14°♁22'47	0°-52'-4
direct	533 Apr 07 j 20:17	13°♏27'25		minimum elong	539 Feb 01 j 06:40	14°♁22'46	0°52'05
	533 May 10 j 06:51	15°♏		max. Earth dist.	539 Feb 01 j 11:37	14°♁25'45	5.99361 AU
	533 Aug 07 j 13:07	0°♏			539 Feb 03 j 20:27	15°♁	
evening set	533 Aug 12 j 20:02	1°♏07'57		morning rise	539 Feb 14 j 08:41	17°♁31'31	
					539 Apr 12 j 03:02	0°♏	
conjunction	533 Aug 25 j 22:51	3°♏58'06	1°05'08	retrograde	539 Jun 26 j 06:06	7°♏57'10	
minimum elong	533 Aug 25 j 22:49	3°♏58'05	1°05'08	opposition	539 Aug 25 j 08:14	2°♏56'14	-1°-35'-55
max. Earth dist.	533 Aug 25 j 02:10	3°♏46'54	6.43543 AU	min. Earth dist.	539 Aug 24 j 18:16	3°♏00'54	3.96666 AU
morning rise	533 Sep 07 j 22:31	6°♏46'45			539 Sep 18 j 00:26	30°♏	
retrograde	534 Jan 06 j 01:05	23°♏34'59		direct	539 Oct 22 j 15:57	28°♁02'41	
opposition	534 Mar 07 j 12:52	18°♏41'34	1°40'57		539 Nov 25 j 22:23	0°♏	
min. Earth dist.	534 Mar 08 j 10:12	18°♏34'41	4.44333 AU	evening set	540 Feb 24 j 22:22	17°♏41'31	
direct	534 May 09 j 03:10	13°♏39'00					
	534 Sep 07 j 01:44	0°♏		conjunction	540 Mar 09 j 05:23	20°♏53'38	-1°-8'-50
evening set	534 Sep 12 j 20:02	1°♏14'25		minimum elong	540 Mar 09 j 05:22	20°♏53'38	1°08'50
max. Earth dist.	534 Sep 23 j 23:08	3°♏39'41	6.43143 AU	max. Earth dist.	540 Mar 10 j 16:58	21°♏15'05	5.96033 AU
				morning rise	540 Mar 22 j 15:36	24°♏07'25	
conjunction	534 Sep 25 j 15:50	4°♏01'53	1°09'25		540 Apr 16 j 19:41	0°♏	
minimum elong	534 Sep 25 j 15:50	4°♏01'54	1°09'25	retrograde	540 Aug 02 j 00:43	14°♏43'38	
morning rise	534 Oct 08 j 08:59	6°♏48'09		min. Earth dist.	540 Sep 29 j 11:17	9°♏49'48	3.97834 AU
retrograde	535 Feb 05 j 21:33	23°♏43'18		opposition	540 Sep 30 j 17:54	9°♏39'25	-1°-40'-38
opposition	535 Apr 07 j 15:54	18°♏51'25	1°33'45	direct	540 Nov 27 j 14:08	4°♏44'09	
min. Earth dist.	535 Apr 09 j 01:27	18°♏40'43	4.40407 AU	evening set	541 Apr 02 j 10:22	24°♏16'11	
direct	535 Jun 09 j 09:53	13°♏50'25					
	535 Oct 06 j 04:16	0°♏		conjunction	541 Apr 16 j 00:51	27°♏29'12	0°-58'-41
evening set	535 Oct 13 j 12:09	1°♏36'26		minimum elong	541 Apr 16 j 00:54	27°♏29'14	0°58'42
max. Earth dist.	535 Oct 24 j 02:32	3°♏57'33	6.35920 AU	max. Earth dist.	541 Apr 18 j 05:11	28°♏00'11	6.01485 AU
					541 Apr 26 j 16:10	0°♏	
conjunction	535 Oct 26 j 04:07	4°♏25'09	0°54'40	morning rise	541 Apr 29 j 18:03	0°♏43'24	
minimum elong	535 Oct 26 j 04:09	4°♏25'10	0°54'40		541 Jul 07 j 01:36	15°♏	
morning rise	535 Nov 07 j 18:19	7°♏13'11		retrograde	541 Sep 07 j 02:09	20°♏41'18	
	535 Dec 14 j 13:04	15°♏		min. Earth dist.	541 Nov 04 j 05:50	15°♏47'45	4.06935 AU
retrograde	536 Mar 09 j 03:36	24°♏42'30		opposition	541 Nov 05 j 15:56	15°♏36'06	-1°-6'-23
opposition	536 May 09 j 02:45	19°♏50'25	1°00'01		541 Nov 10 j 01:57	15°♏	
min. Earth dist.	536 May 10 j 13:37	19°♏39'19	4.30280 AU	direct	542 Jan 03 j 00:37	10°♏37'48	
	536 Jun 30 j 18:27	15°♏			542 Feb 25 j 05:38	15°♏	
direct	536 Jul 10 j 05:28	14°♏51'44		evening set	542 May 09 j 09:57	29°♏41'17	
	536 Jul 19 j 16:32	15°♏			542 May 10 j 18:44	0°♏	
	536 Oct 30 j 04:45	0°♏					
evening set	536 Nov 12 j 18:56	3°♏02'55		conjunction	542 May 23 j 04:30	2°♏50'42	0°-26'-53
max. Earth dist.	536 Nov 23 j 14:45	5°♏31'16	6.23709 AU	minimum elong	542 May 23 j 04:32	2°♏50'43	0°26'55
				max. Earth dist.	542 May 25 j 06:54	3°♏19'37	6.13419 AU
conjunction	536 Nov 25 j 10:27	5°♏56'19	0°23'36	morning rise	542 Jun 05 j 23:38	6°♏00'10	
minimum elong	536 Nov 25 j 10:28	5°♏56'20	0°23'35	retrograde	542 Oct 10 j 21:43	24°♏52'13	
morning rise	536 Dec 08 j 01:25	8°♏49'45		min. Earth dist.	542 Dec 08 j 09:49	19°♏57'46	4.20360 AU
retrograde	537 Apr 12 j 14:50	27°♏15'49		opposition	542 Dec 09 j 11:50	19°♏48'58	0°-10'-30
opposition	537 Jun 12 j 11:15	22°♏22'04	0°05'55	direct	543 Feb 07 j 00:11	14°♏47'53	
min. Earth dist.	537 Jun 13 j 14:08	22°♏13'26	4.16705 AU	asc. node	543 Feb 18 j 08:18	15°♏00'26	
desc. node	537 Jul 21 j 16:10	18°♏10'24			543 May 29 j 23:39	0°♏	
direct	537 Aug 12 j 10:15	17°♏26'01		evening set	543 Jun 13 j 20:33	3°♏15'08	
	537 Nov 18 j 05:44	0°♏					
evening set	537 Dec 15 j 12:58	6°♏12'01		conjunction	543 Jun 27 j 12:48	6°♏17'34	0°12'49
max. Earth dist.	537 Dec 27 j 04:51	8°♏56'48	6.09975 AU	minimum elong	543 Jun 27 j 12:47	6°♏17'33	0°12'49
				behind sun begin	543 Jun 27 j 07:47	6°♏14'47	
conjunction	537 Dec 28 j 06:59	9°♏12'14	0°-16'-20	behind sun end	543 Jun 27 j 17:46	6°♏20'19	
minimum elong	537 Dec 28 j 06:58	9°♏12'13	0°16'21	max. Earth dist.	543 Jun 28 j 17:20	6°♏33'27	6.27258 AU
morning rise	538 Jan 10 j 02:20	12°♏13'20		morning rise	543 Jul 11 j 04:00	9°♏19'11	
	538 Apr 15 j 07:16	0°♏		retrograde	543 Nov 11 j 15:11	27°♏07'14	
retrograde	538 May 19 j 05:07	1°♏46'23		opposition	544 Jan 10 j 11:09	22°♏07'33	0°45'19
	538 Jun 22 j 06:10	30°♏		min. Earth dist.	544 Jan 10 j 00:49	22°♏11'00	4.33398 AU

direct	544 Mar 11 j 08:14	17°♏04'44		morning rise	550 Jan 14 j 23:16	17°♏14'55	
	544 Jun 22 j 16:00	0°♏			550 Mar 15 j 11:33	0°♏	
evening set	544 Jul 16 j 09:21	5°♏01'08		retrograde	550 May 24 j 15:05	6°♏57'39	
				opposition	550 Jul 24 j 02:14	2°♏00'11	-1°-1'-24
conjunction	544 Jul 29 j 19:03	7°♏56'07	0°46'58	min. Earth dist.	550 Jul 24 j 07:03	1°♏58'37	4.02347 AU
minimum elong	544 Jul 29 j 19:01	7°♏56'05	0°46'58		550 Aug 08 j 20:22	30°♏♏	
max. Earth dist.	544 Jul 29 j 21:06	7°♏57'14	6.38518 AU	direct	550 Sep 21 j 09:14	27°♏06'28	
morning rise	544 Aug 12 j 02:02	10°♏49'40			550 Nov 02 j 22:13	0°♏	
	544 Aug 31 j 17:13	15°♏			551 Jan 18 j 01:54	15°♏	
retrograde	544 Dec 11 j 03:03	27°♏53'43		evening set	551 Jan 24 j 10:25	16°♏31'01	
opposition	545 Feb 09 j 07:07	22°♏57'49	1°25'28				
min. Earth dist.	545 Feb 09 j 14:36	22°♏55'23	4.42175 AU	conjunction	551 Feb 06 j 10:52	19°♏39'09	0°-55'-56
direct	545 Apr 12 j 07:28	17°♏54'39		minimum elong	551 Feb 06 j 10:49	19°♏39'07	0°55'57
	545 Jul 21 j 17:20	0°♏		max. Earth dist.	551 Feb 06 j 20:21	19°♏44'52	5.98287 AU
evening set	545 Aug 17 j 06:52	5°♏32'51		morning rise	551 Feb 19 j 14:04	22°♏48'52	
max. Earth dist.	545 Aug 29 j 07:03	8°♏08'33	6.44083 AU		551 Mar 22 j 13:58	0°♏	
				retrograde	551 Jul 01 j 16:45	13°♏19'14	
conjunction	545 Aug 30 j 08:24	8°♏22'17	1°06'54	opposition	551 Aug 30 j 17:29	8°♏17'48	-1°-39'-10
minimum elong	545 Aug 30 j 08:22	8°♏22'16	1°06'53	min. Earth dist.	551 Aug 29 j 23:39	8°♏23'46	3.96296 AU
morning rise	545 Sep 12 j 07:06	11°♏10'17		direct	551 Oct 27 j 21:23	3°♏24'11	
retrograde	546 Jan 10 j 09:26	27°♏57'17		evening set	552 Mar 01 j 06:31	23°♏03'34	
opposition	546 Mar 11 j 21:28	23°♏04'09	1°41'35				
min. Earth dist.	546 Mar 12 j 21:57	22°♏56'16	4.44332 AU	conjunction	552 Mar 14 j 14:35	26°♏16'00	-1°-9'-2
direct	546 May 13 j 14:22	18°♏01'41		minimum elong	552 Mar 14 j 14:35	26°♏16'00	1°09'02
	546 Aug 21 j 10:15	0°♏		max. Earth dist.	552 Mar 16 j 05:25	26°♏39'23	5.96390 AU
evening set	546 Sep 17 j 03:56	5°♏37'14		morning rise	552 Mar 28 j 01:57	29°♏30'06	
max. Earth dist.	546 Sep 28 j 04:38	8°♏01'24	6.42584 AU		552 Mar 30 j 04:06	0°♏	
				retrograde	552 Aug 07 j 06:21	20°♏03'04	
conjunction	546 Sep 29 j 23:07	8°♏24'38	1°08'27	opposition	552 Oct 05 j 23:33	14°♏58'29	-1°-37'-51
minimum elong	546 Sep 29 j 23:08	8°♏24'38	1°08'27	min. Earth dist.	552 Oct 04 j 15:30	15°♏09'23	3.98882 AU
morning rise	546 Oct 12 j 15:32	11°♏10'50		direct	552 Dec 02 j 20:45	10°♏02'50	
retrograde	547 Feb 10 j 07:13	28°♏09'01		evening set	553 Apr 07 j 17:46	29°♏30'55	
opposition	547 Apr 12 j 03:30	23°♏17'10	1°30'29		553 Apr 09 j 19:20	0°♏	
min. Earth dist.	547 Apr 13 j 13:11	23°♏06'26	4.39332 AU				
direct	547 Jun 13 j 19:19	18°♏16'25		conjunction	553 Apr 21 j 09:13	2°♏43'36	0°-55'-12
	547 Sep 19 j 10:34	0°♏		minimum elong	553 Apr 21 j 09:16	2°♏43'37	0°55'12
evening set	547 Oct 17 j 20:57	6°♏05'11		max. Earth dist.	553 Apr 23 j 16:14	3°♏16'01	6.03128 AU
max. Earth dist.	547 Oct 28 j 11:11	8°♏26'43	6.34412 AU	morning rise	553 May 05 j 02:52	5°♏57'14	
					553 Jun 14 j 19:59	15°♏	
conjunction	547 Oct 30 j 12:37	8°♏54'21	0°51'07	retrograde	553 Sep 12 j 01:02	25°♏45'40	
minimum elong	547 Oct 30 j 12:39	8°♏54'22	0°51'07	min. Earth dist.	553 Nov 09 j 04:32	20°♏52'02	4.08969 AU
morning rise	547 Nov 12 j 02:41	11°♏42'56		opposition	553 Nov 10 j 14:01	20°♏40'37	0°-59'-14
	547 Nov 27 j 01:43	15°♏		direct	554 Jan 08 j 02:17	15°♏41'56	
retrograde	548 Mar 13 j 22:11	29°♏19'10			554 Apr 23 j 16:03	0°♏	
opposition	548 May 13 j 20:18	24°♏26'58	0°53'20	evening set	554 May 14 j 12:22	4°♏39'12	
min. Earth dist.	548 May 15 j 07:47	24°♏15'40	4.28413 AU				
direct	548 Jul 14 j 20:39	19°♏28'37		conjunction	554 May 28 j 06:44	7°♏47'35	0°-21'-25
	548 Oct 12 j 18:13	0°♏		minimum elong	554 May 28 j 06:46	7°♏47'36	0°21'26
evening set	548 Nov 17 j 07:43	7°♏44'39		max. Earth dist.	554 May 30 j 05:58	8°♏14'32	6.15651 AU
max. Earth dist.	548 Nov 28 j 04:07	10°♏14'04	6.21640 AU	morning rise	554 Jun 11 j 01:46	10°♏55'58	
				retrograde	554 Oct 15 j 10:08	29°♏37'21	
conjunction	548 Nov 29 j 23:25	10°♏38'59	0°18'13	min. Earth dist.	554 Dec 13 j 01:31	24°♏42'43	4.22567 AU
minimum elong	548 Nov 29 j 23:26	10°♏39'00	0°18'13	opposition	554 Dec 14 j 01:45	24°♏34'32	0°-2'-12
morning rise	548 Dec 12 j 14:57	13°♏33'29		asc. node	554 Dec 29 j 01:22	22°♏36'35	
	549 Mar 10 j 22:28	0°♏		direct	555 Feb 11 j 18:42	19°♏33'07	
retrograde	549 Apr 17 j 15:57	2°♏09'18			555 May 12 j 04:25	0°♏	
	549 May 25 j 18:09	30°♏♏		evening set	555 Jun 18 j 15:38	7°♏54'41	
desc. node	549 May 30 j 16:14	29°♏27'34					
opposition	549 Jun 17 j 12:07	27°♏15'10	0°-2'-41	conjunction	555 Jul 02 j 07:15	10°♏55'58	0°18'11
min. Earth dist.	549 Jun 18 j 11:57	27°♏07'30	4.14592 AU	minimum elong	555 Jul 02 j 07:13	10°♏55'58	0°18'10
direct	549 Aug 17 j 04:59	22°♏19'28		max. Earth dist.	555 Jul 03 j 08:28	11°♏09'58	6.29278 AU
	549 Oct 29 j 17:48	0°♏		morning rise	555 Jul 15 j 21:19	13°♏56'17	
evening set	549 Dec 20 j 08:30	11°♏11'17			555 Oct 14 j 23:03	0°♏	
max. Earth dist.	550 Jan 01 j 05:56	14°♏00'00	6.08021 AU	retrograde	555 Nov 15 j 23:17	1°♏36'16	
					555 Dec 17 j 17:53	30°♏♏	
conjunction	550 Jan 02 j 03:13	14°♏12'37	0°-22'-2	opposition	556 Jan 14 j 19:33	26°♏37'13	0°52'07
minimum elong	550 Jan 02 j 03:12	14°♏12'36	0°22'03	min. Earth dist.	556 Jan 14 j 12:04	26°♏39'41	4.35070 AU

direct	556 Mar 15 j 21:02	21° \mathfrak{G} 34'19		opposition	561 Jun 22 j 15:20	2° \mathfrak{Z} 14'37	0°-11'-27
	556 Jun 04 j 07:08	0° \mathcal{Q}		min. Earth dist.	561 Jun 23 j 13:16	2° \mathfrak{Z} 07'33	4.12587 AU
evening set	556 Jul 20 j 21:53	9° \mathcal{Q} 27'04			561 Jul 10 j 16:54	30° \mathcal{R} \mathfrak{X}	
				direct	561 Aug 22 j 04:16	27° \mathfrak{X} 19'18	
conjunction	556 Aug 03 j 06:22	12° \mathcal{Q} 21'06	0°50'43		561 Oct 02 j 18:54	0° \mathfrak{Z}	
minimum elong	556 Aug 03 j 06:20	12° \mathcal{Q} 21'04	0°50'44	evening set	561 Dec 25 j 06:05	16° \mathfrak{Z} 16'17	
max. Earth dist.	556 Aug 03 j 02:49	12° \mathcal{Q} 19'10	6.39697 AU	max. Earth dist.	562 Jan 06 j 08:20	19° \mathfrak{Z} 08'26	6.06342 AU
	556 Aug 15 j 10:55	15° \mathcal{Q}					
morning rise	556 Aug 16 j 12:19	15° \mathcal{Q} 13'44		conjunction	562 Jan 07 j 01:29	19° \mathfrak{Z} 18'38	0°-27'-38
	556 Nov 07 j 02:43	0° \mathfrak{M}		minimum elong	562 Jan 07 j 01:27	19° \mathfrak{Z} 18'37	0°27'39
retrograde	556 Dec 15 j 08:43	2° \mathfrak{M} 14'00		morning rise	562 Jan 19 j 22:27	22° \mathfrak{Z} 22'03	
	557 Jan 22 j 15:58	30° \mathcal{R} \mathcal{Q}			562 Feb 22 j 11:06	0° \approx	
opposition	557 Feb 13 j 13:26	27° \mathcal{Q} 18'34	1°29'15	retrograde	562 May 29 j 23:39	12° \approx 12'51	
min. Earth dist.	557 Feb 14 j 00:05	27° \mathcal{Q} 15'05	4.42813 AU	opposition	562 Jul 29 j 10:25	7° \approx 14'49	-1°-8'-37
direct	557 Apr 16 j 16:34	22° \mathcal{Q} 15'24		min. Earth dist.	562 Jul 29 j 10:52	7° \approx 14'40	4.01185 AU
	557 Jul 03 j 04:21	0° \mathfrak{M}		direct	562 Sep 26 j 12:18	2° \approx 21'15	
evening set	557 Aug 21 j 15:10	9° \mathfrak{M} 52'46			562 Dec 31 j 07:52	15° \approx	
				evening set	563 Jan 29 j 14:23	21° \approx 48'26	
conjunction	557 Sep 03 j 15:52	12° \mathfrak{M} 41'49	1°08'15	conjunction	563 Feb 11 j 15:43	24° \approx 57'14	0°-59'-20
minimum elong	557 Sep 03 j 15:51	12° \mathfrak{M} 41'48	1°08'14	minimum elong	563 Feb 11 j 15:41	24° \approx 57'12	0°59'21
max. Earth dist.	557 Sep 02 j 12:25	12° \mathfrak{M} 26'55	6.44130 AU	max. Earth dist.	563 Feb 12 j 05:39	25° \approx 05'38	5.97720 AU
morning rise	557 Sep 16 j 13:24	15° \mathfrak{M} 29'23		morning rise	563 Feb 24 j 20:00	28° \approx 07'40	
	557 Dec 06 j 18:19	0° \mathfrak{A}			563 Mar 04 j 16:37	0° \mathfrak{H}	
retrograde	558 Jan 14 j 15:25	2° \mathfrak{A} 17'01		retrograde	563 Jul 07 j 01:36	18° \mathfrak{H} 40'25	
	558 Feb 22 j 20:01	30° \mathcal{R} \mathfrak{M}		min. Earth dist.	563 Sep 04 j 05:25	13° \mathfrak{H} 45'12	3.96390 AU
opposition	558 Mar 16 j 05:00	27° \mathfrak{M} 24'13	1°41'40	opposition	563 Sep 05 j 01:52	13° \mathfrak{H} 38'20	-1°-41'-31
min. Earth dist.	558 Mar 17 j 06:48	27° \mathfrak{M} 15'56	4.43807 AU	direct	563 Nov 02 j 04:22	8° \mathfrak{H} 44'29	
direct	558 May 17 j 21:30	22° \mathfrak{M} 22'00		evening set	564 Mar 06 j 13:25	28° \mathfrak{H} 22'39	
	558 Aug 02 j 19:29	0° \mathfrak{A}			564 Mar 13 j 08:01	0° \mathcal{Y}	
evening set	558 Sep 21 j 11:24	9° \mathfrak{A} 59'28					
max. Earth dist.	558 Oct 02 j 08:27	12° \mathfrak{A} 22'08	6.41517 AU				
				conjunction	564 Mar 19 j 22:41	1° \mathcal{Y} 35'15	-1°-8'-40
conjunction	558 Oct 04 j 05:48	12° \mathfrak{A} 47'00	1°07'06	minimum elong	564 Mar 19 j 22:41	1° \mathcal{Y} 35'16	1°08'41
minimum elong	558 Oct 04 j 05:49	12° \mathfrak{A} 47'01	1°07'06	max. Earth dist.	564 Mar 21 j 18:11	2° \mathcal{Y} 01'23	5.97120 AU
morning rise	558 Oct 16 j 21:51	15° \mathfrak{A} 33'28		morning rise	564 Apr 02 j 10:55	4° \mathcal{Y} 49'25	
	559 Jan 04 j 00:45	0° \mathfrak{M}		retrograde	564 Aug 12 j 10:58	25° \mathcal{Y} 17'24	
retrograde	559 Feb 14 j 20:54	2° \mathfrak{M} 36'31		min. Earth dist.	564 Oct 09 j 18:16	20° \mathcal{Y} 23'40	4.00172 AU
	559 Mar 29 j 05:12	30° \mathcal{R} \mathfrak{A}		opposition	564 Oct 11 j 02:49	20° \mathcal{Y} 12'36	-1°-34'-18
opposition	559 Apr 16 j 15:58	27° \mathfrak{A} 44'45	1°26'43	direct	564 Dec 08 j 01:33	15° \mathcal{Y} 16'33	
min. Earth dist.	559 Apr 18 j 03:20	27° \mathfrak{A} 33'29	4.37788 AU		565 Mar 23 j 15:17	0° \mathfrak{B}	
direct	559 Jun 18 j 06:49	22° \mathfrak{A} 44'18		evening set	565 Apr 12 j 23:26	4° \mathfrak{B} 40'11	
	559 Aug 31 j 06:39	0° \mathfrak{M}					
evening set	559 Oct 22 j 06:20	10° \mathfrak{M} 37'16		conjunction	565 Apr 26 j 15:25	7° \mathfrak{B} 52'21	0°-51'-20
max. Earth dist.	559 Nov 01 j 20:43	12° \mathfrak{M} 59'30	6.32519 AU	minimum elong	565 Apr 26 j 15:27	7° \mathfrak{B} 52'23	0°51'21
				max. Earth dist.	565 Apr 28 j 21:27	8° \mathfrak{B} 24'02	6.04837 AU
conjunction	559 Nov 03 j 21:59	13° \mathfrak{M} 27'10	0°47'15	morning rise	565 May 10 j 09:42	11° \mathfrak{B} 05'25	
minimum elong	559 Nov 03 j 22:01	13° \mathfrak{M} 27'11	0°47'14		565 May 27 j 11:23	15° \mathfrak{B}	
	559 Nov 10 j 19:20	15° \mathfrak{M}			565 Aug 26 j 13:24	0° \mathfrak{I}	
morning rise	559 Nov 16 j 12:04	16° \mathfrak{M} 16'33		retrograde	565 Sep 16 j 19:17	0° \mathfrak{I} 44'21	
	560 Jan 26 j 05:06	0° \mathfrak{X}			565 Oct 07 j 21:50	30° \mathcal{R} \mathfrak{B}	
retrograde	560 Mar 18 j 17:10	4° \mathfrak{X} 01'07		min. Earth dist.	565 Nov 14 j 00:19	25° \mathfrak{B} 50'44	4.10917 AU
	560 May 11 j 22:16	30° \mathcal{R} \mathfrak{M}		opposition	565 Nov 15 j 09:25	25° \mathfrak{B} 39'26	0°-51'-48
opposition	560 May 18 j 15:48	29° \mathfrak{M} 08'45	0°46'13	direct	566 Jan 13 j 00:57	20° \mathfrak{B} 40'17	
min. Earth dist.	560 May 20 j 01:09	28° \mathfrak{M} 58'07	4.26301 AU		566 Apr 05 j 00:16	0° \mathfrak{I}	
direct	560 Jul 19 j 10:35	24° \mathfrak{M} 10'50		evening set	566 May 19 j 12:45	9° \mathfrak{I} 32'04	
	560 Sep 21 j 19:21	0° \mathfrak{X}					
evening set	560 Nov 21 j 22:23	12° \mathfrak{X} 32'25		conjunction	566 Jun 02 j 07:08	12° \mathfrak{I} 39'31	0°-15'-53
max. Earth dist.	560 Dec 02 j 22:21	15° \mathfrak{X} 04'36	6.19501 AU	minimum elong	566 Jun 02 j 07:09	12° \mathfrak{I} 39'32	0°15'54
				max. Earth dist.	566 Jun 04 j 03:47	13° \mathfrak{I} 04'55	6.17690 AU
conjunction	560 Dec 04 j 14:20	15° \mathfrak{X} 27'44	0°12'39	morning rise	566 Jun 16 j 01:40	15° \mathfrak{I} 46'48	
minimum elong	560 Dec 04 j 14:21	15° \mathfrak{X} 27'45	0°12'38		566 Aug 27 j 07:00	0° \mathfrak{G}	
behind sun begin	560 Dec 04 j 09:09	15° \mathfrak{X} 24'45		retrograde	566 Oct 19 j 23:26	4° \mathfrak{G} 18'37	
behind sun end	560 Dec 04 j 19:33	15° \mathfrak{X} 30'45		asc. node	566 Nov 07 j 22:53	3° \mathfrak{G} 42'44	
morning rise	560 Dec 17 j 06:20	18° \mathfrak{X} 23'21			566 Dec 13 j 04:18	30° \mathcal{R} \mathfrak{I}	
	561 Feb 10 j 06:28	0° \mathfrak{Z}		opposition	566 Dec 18 j 14:27	29° \mathfrak{I} 16'17	0°05'58
desc. node	561 Apr 08 j 08:15	6° \mathfrak{Z} 49'20		min. Earth dist.	566 Dec 17 j 17:09	29° \mathfrak{I} 23'28	4.24501 AU
retrograde	561 Apr 22 j 21:01	7° \mathfrak{Z} 09'10		direct	567 Feb 16 j 12:33	24° \mathfrak{I} 14'34	

	567 Apr 21 j 06:11	0°♄			572 Aug 19 j 22:31	0°♄	
evening set	567 Jun 23 j 09:36	12°♄31'28		evening set	572 Nov 26 j 13:20	17°♄20'13	
				max. Earth dist.	572 Dec 07 j 16:54	19°♄55'04	6.17757 AU
conjunction	567 Jul 07 j 00:23	15°♄31'42	0°23'23				
minimum elong	567 Jul 07 j 00:21	15°♄31'41	0°23'23	conjunction	572 Dec 09 j 05:42	20°♄16'26	0°07'01
max. Earth dist.	567 Jul 07 j 21:23	15°♄43'18	6.30951 AU	minimum elong	572 Dec 09 j 05:41	20°♄16'26	0°07'01
morning rise	567 Jul 20 j 13:31	18°♄30'53		behind sun begin	572 Dec 08 j 22:17	20°♄12'09	
	567 Sep 16 j 02:07	0°♄		behind sun end	572 Dec 09 j 13:06	20°♄20'43	
retrograde	567 Nov 20 j 05:31	6°♄04'08		morning rise	572 Dec 21 j 22:08	23°♄13'00	
opposition	568 Jan 19 j 03:39	1°♄05'34	0°58'35		573 Jan 21 j 06:51	0°♄	
min. Earth dist.	568 Jan 18 j 22:28	1°♄07'17	4.36388 AU	desc. node	573 Feb 15 j 18:46	5°♄01'46	
	568 Jan 27 j 11:15	30°♄		retrograde	573 Apr 27 j 23:04	12°♄07'14	
direct	568 Mar 20 j 08:25	26°♄02'32		opposition	573 Jun 27 j 17:50	7°♄12'18	0°-20'-2
	568 May 12 j 07:35	0°♄		min. Earth dist.	573 Jun 28 j 12:14	7°♄06'21	4.11054 AU
evening set	568 Jul 25 j 10:26	13°♄52'44		direct	573 Aug 27 j 01:12	2°♄17'23	
	568 Jul 30 j 14:50	15°♄		evening set	573 Dec 30 j 02:43	21°♄17'58	
conjunction	568 Aug 07 j 17:52	16°♄45'58	0°54'12	conjunction	574 Jan 11 j 22:37	24°♄21'04	0°-32'-56
minimum elong	568 Aug 07 j 17:50	16°♄45'57	0°54'12	minimum elong	574 Jan 11 j 22:35	24°♄21'03	0°32'57
max. Earth dist.	568 Aug 07 j 11:02	16°♄42'15	6.40563 AU	max. Earth dist.	574 Jan 11 j 09:33	24°♄13'17	6.05151 AU
morning rise	568 Aug 20 j 22:31	19°♄37'45		morning rise	574 Jan 24 j 20:27	27°♄25'23	
	568 Oct 12 j 00:59	0°♄			574 Feb 04 j 19:46	0°♄	
retrograde	568 Dec 19 j 14:59	6°♄35'07			574 Apr 25 j 21:59	15°♄	
opposition	569 Feb 17 j 20:20	1°♄40'10	1°32'36	retrograde	574 Jun 04 j 06:52	17°♄22'30	
min. Earth dist.	569 Feb 18 j 09:36	1°♄35'51	4.43193 AU		574 Jul 13 j 19:54	15°♄	
	569 Mar 02 j 22:25	30°♄		opposition	574 Aug 03 j 16:14	12°♄23'53	-1°-15'-7
direct	569 Apr 21 j 02:08	26°♄37'06		min. Earth dist.	574 Aug 03 j 13:44	12°♄24'43	4.00453 AU
	569 Jun 09 j 07:14	0°♄		direct	574 Oct 01 j 15:12	7°♄30'23	
evening set	569 Aug 26 j 00:21	14°♄14'15			574 Dec 11 j 10:09	15°♄	
				evening set	575 Feb 03 j 15:54	26°♄58'55	
conjunction	569 Sep 07 j 23:58	17°♄02'57	1°09'14	conjunction	575 Feb 16 j 18:17	0°♄08'14	-1°-2'-10
minimum elong	569 Sep 07 j 23:57	17°♄02'56	1°09'14	minimum elong	575 Feb 16 j 18:15	0°♄08'13	1°02'10
max. Earth dist.	569 Sep 06 j 16:08	16°♄45'40	6.43974 AU		575 Feb 16 j 04:38	0°♄	
morning rise	569 Sep 20 j 20:44	19°♄50'15		max. Earth dist.	575 Feb 17 j 13:42	0°♄19'57	5.97514 AU
	569 Nov 10 j 20:41	0°♄		morning rise	575 Mar 01 j 23:29	3°♄19'11	
retrograde	570 Jan 19 j 00:44	6°♄39'07		retrograde	575 Jul 12 j 07:29	23°♄52'39	
opposition	570 Mar 20 j 14:11	1°♄46'34	1°41'13	min. Earth dist.	575 Sep 09 j 08:02	18°♄57'35	3.96758 AU
min. Earth dist.	570 Mar 21 j 18:02	1°♄37'37	4.43153 AU	opposition	575 Sep 10 j 06:10	18°♄50'09	-1°-42'-56
	570 Apr 03 j 17:51	30°♄		direct	575 Nov 07 j 06:54	13°♄56'08	
direct	570 May 22 j 07:14	26°♄44'31			576 Feb 25 j 16:05	0°♄	
	570 Jul 09 j 14:35	0°♄		evening set	576 Mar 11 j 17:07	3°♄32'34	
evening set	570 Sep 25 j 19:39	14°♄24'03					
max. Earth dist.	570 Oct 06 j 16:22	16°♄46'53	6.40420 AU				
conjunction	570 Oct 08 j 13:40	17°♄11'48	1°05'21	conjunction	576 Mar 25 j 03:13	6°♄45'11	-1°-7'-45
minimum elong	570 Oct 08 j 13:41	17°♄11'49	1°05'21	minimum elong	576 Mar 25 j 03:15	6°♄45'12	1°07'46
morning rise	570 Oct 21 j 05:05	19°♄58'31		max. Earth dist.	576 Mar 26 j 23:30	7°♄11'42	5.97993 AU
	570 Dec 09 j 14:51	0°♄		morning rise	576 Apr 07 j 16:36	9°♄59'23	
retrograde	571 Feb 19 j 09:28	7°♄06'29			576 Aug 02 j 12:02	0°♄	
opposition	571 Apr 21 j 05:53	2°♄14'47	1°22'23	retrograde	576 Aug 17 j 09:22	0°♄21'58	
min. Earth dist.	571 Apr 22 j 16:44	2°♄03'41	4.36333 AU		576 Sep 01 j 05:24	30°♄	
	571 May 09 j 13:06	30°♄		min. Earth dist.	576 Oct 14 j 15:55	25°♄28'29	4.01458 AU
direct	571 Jun 22 j 17:34	27°♄14'47		opposition	576 Oct 16 j 01:34	25°♄17'02	-1°-30'-9
	571 Aug 05 j 13:49	0°♄		direct	576 Dec 13 j 01:19	20°♄20'34	
	571 Oct 25 j 20:29	15°♄			577 Mar 05 j 05:11	0°♄	
evening set	571 Oct 26 j 17:01	15°♄11'28		evening set	577 Apr 18 j 01:09	9°♄40'17	
max. Earth dist.	571 Nov 06 j 07:36	17°♄34'27	6.30837 AU				
conjunction	571 Nov 08 j 08:23	18°♄01'58	0°43'03	conjunction	577 May 01 j 17:52	12°♄52'02	0°-47'-14
minimum elong	571 Nov 08 j 08:25	18°♄01'59	0°43'04	minimum elong	577 May 01 j 17:55	12°♄52'03	0°47'15
morning rise	571 Nov 20 j 22:38	20°♄52'06		max. Earth dist.	577 May 03 j 23:16	13°♄23'14	6.06428 AU
	572 Jan 03 j 03:26	0°♄			577 May 10 j 21:14	15°♄	
retrograde	572 Mar 23 j 15:01	8°♄44'18		morning rise	577 May 15 j 12:27	16°♄04'31	
opposition	572 May 23 j 12:16	3°♄51'45	0°38'45		577 Jul 21 j 23:29	0°♄	
min. Earth dist.	572 May 24 j 20:55	3°♄41'19	4.24499 AU	retrograde	577 Sep 21 j 12:47	5°♄34'56	
	572 Jun 27 j 07:21	30°♄		min. Earth dist.	577 Nov 18 j 18:44	0°♄40'50	4.12624 AU
direct	572 Jul 24 j 04:20	28°♄54'15		opposition	577 Nov 20 j 01:35	0°♄30'19	0°-44'-17
					577 Nov 23 j 18:43	30°♄	
				direct	578 Jan 17 j 21:15	25°♄30'47	

	578 Mar 13 j 08:18	0°♂		minimum elong	583 Nov 12 j 17:53	22°♂35'03	0°38'37
evening set	578 May 24 j 10:10	14°♂18'14		morning rise	583 Nov 25 j 08:03	25°♂25'48	
					583 Dec 16 j 01:01	0°♂	
conjunction	578 Jun 07 j 04:27	17°♂24'55	0°-10'-26	retrograde	584 Mar 28 j 09:12	13°♂25'08	
minimum elong	578 Jun 07 j 04:27	17°♂24'56	0°10'27	opposition	584 May 28 j 07:40	8°♂32'18	0°31'03
behind sun begin	578 Jun 06 j 21:59	17°♂21'17		min. Earth dist.	584 May 29 j 14:43	8°♂22'23	4.22793 AU
behind sun end	578 Jun 07 j 10:55	17°♂28'34		direct	584 Jul 28 j 19:39	3°♂35'09	
max. Earth dist.	578 Jun 08 j 22:36	17°♂48'47	6.19386 AU	evening set	584 Dec 01 j 03:08	22°♂05'10	
morning rise	578 Jun 20 j 22:37	20°♂31'16		max. Earth dist.	584 Dec 12 j 08:35	24°♂41'45	6.16016 AU
	578 Aug 04 j 18:48	0°♂					
asc. node	578 Sep 18 j 23:59	6°♂57'10		conjunction	584 Dec 13 j 19:36	25°♂02'10	0°01'21
retrograde	578 Oct 24 j 08:07	8°♂55'02		minimum elong	584 Dec 13 j 19:37	25°♂02'11	0°01'21
min. Earth dist.	578 Dec 22 j 04:47	3°♂59'56	4.26054 AU	behind sun begin	584 Dec 13 j 11:37	24°♂57'32	
opposition	578 Dec 23 j 00:44	3°♂53'13	0°13'52	behind sun end	584 Dec 14 j 03:37	25°♂06'49	
	579 Jan 25 j 08:01	30°♂		morning rise	584 Dec 26 j 12:43	27°♂59'44	
direct	579 Feb 21 j 01:45	28°♂51'17		desc. node	584 Dec 26 j 15:17	28°♂01'13	
	579 Mar 20 j 05:25	0°♂			585 Jan 04 j 05:35	0°♂	
evening set	579 Jun 28 j 01:59	17°♂05'00		retrograde	585 May 03 j 01:28	17°♂02'39	
				opposition	585 Jul 02 j 19:09	12°♂07'12	0°-28'-30
conjunction	579 Jul 11 j 15:55	20°♂04'21	0°28'19	min. Earth dist.	585 Jul 03 j 11:16	12°♂01'59	4.09400 AU
minimum elong	579 Jul 11 j 15:53	20°♂04'19	0°28'20	direct	585 Aug 31 j 22:51	7°♂12'28	
max. Earth dist.	579 Jul 12 j 08:27	20°♂13'27	6.32263 AU	evening set	586 Jan 03 j 22:37	26°♂17'20	
morning rise	579 Jul 25 j 04:04	23°♂02'35					
	579 Aug 27 j 05:14	0°♂		conjunction	586 Jan 16 j 19:24	29°♂21'24	0°-38'00
retrograde	579 Nov 24 j 13:18	10°♂30'27		minimum elong	586 Jan 16 j 19:21	29°♂21'23	0°38'01
opposition	580 Jan 23 j 11:07	5°♂32'27	1°04'35	max. Earth dist.	586 Jan 16 j 11:13	29°♂16'31	6.03740 AU
min. Earth dist.	580 Jan 23 j 09:08	5°♂33'07	4.37378 AU		586 Jan 19 j 11:58	0°♂	
direct	580 Mar 24 j 20:21	0°♂29'22		morning rise	586 Jan 29 j 18:00	2°♂26'42	
	580 Jul 14 j 10:06	15°♂			586 Mar 28 j 13:02	15°♂	
evening set	580 Jul 29 j 22:07	18°♂17'53		retrograde	586 Jun 09 j 14:04	22°♂30'54	
				opposition	586 Aug 08 j 21:24	17°♂31'44	-1°-21'-6
conjunction	580 Aug 12 j 04:33	21°♂10'28	0°57'18	min. Earth dist.	586 Aug 08 j 16:29	17°♂33'22	3.99447 AU
minimum elong	580 Aug 12 j 04:31	21°♂10'27	0°57'18		586 Aug 29 j 00:47	15°♂	
max. Earth dist.	580 Aug 11 j 18:08	21°♂04'48	6.41155 AU	direct	586 Oct 06 j 16:08	12°♂38'17	
morning rise	580 Aug 25 j 08:06	24°♂01'34			586 Nov 13 j 17:22	15°♂	
	580 Sep 22 j 21:34	0°♂			587 Jan 30 j 16:43	0°♂	
retrograde	580 Dec 23 j 20:34	10°♂56'57		evening set	587 Feb 08 j 18:03	2°♂09'30	
opposition	581 Feb 22 j 03:30	6°♂02'20	1°35'21				
min. Earth dist.	581 Feb 22 j 18:15	5°♂57'33	4.43389 AU	conjunction	587 Feb 21 j 21:19	5°♂19'29	-1°-4'-32
direct	581 Apr 25 j 10:54	0°♂59'21		minimum elong	587 Feb 21 j 21:17	5°♂19'28	1°04'33
evening set	581 Aug 30 j 09:09	18°♂36'28		max. Earth dist.	587 Feb 22 j 19:09	5°♂32'40	5.96978 AU
max. Earth dist.	581 Sep 10 j 22:53	21°♂06'55	6.43760 AU	morning rise	587 Mar 07 j 03:49	8°♂31'12	
				retrograde	587 Jul 17 j 12:35	29°♂06'38	
conjunction	581 Sep 12 j 07:54	21°♂24'52	1°09'48	min. Earth dist.	587 Sep 14 j 10:07	24°♂12'04	3.96770 AU
minimum elong	581 Sep 12 j 07:53	21°♂24'52	1°09'48	opposition	587 Sep 15 j 11:07	24°♂03'39	-1°-43'-37
morning rise	581 Sep 25 j 03:39	24°♂11'53		direct	587 Nov 12 j 09:55	19°♂09'22	
	581 Oct 22 j 19:43	0°♂			588 Feb 07 j 11:17	0°♂	
retrograde	582 Jan 23 j 08:43	11°♂01'59		evening set	588 Mar 16 j 22:29	8°♂45'31	
opposition	582 Mar 24 j 23:30	6°♂09'37	1°40'08				
min. Earth dist.	582 Mar 26 j 04:36	6°♂00'18	4.42547 AU	conjunction	588 Mar 30 j 09:49	11°♂58'25	-1°-6'-18
direct	582 May 26 j 17:03	1°♂07'49		minimum elong	588 Mar 30 j 09:50	11°♂58'26	1°06'19
evening set	582 Sep 30 j 03:43	18°♂48'45		max. Earth dist.	588 Apr 01 j 08:57	12°♂26'35	5.98547 AU
max. Earth dist.	582 Oct 10 j 21:37	21°♂10'30	6.39446 AU	morning rise	588 Apr 13 j 00:03	15°♂12'46	
					588 Jun 22 j 11:06	0°♂	
conjunction	582 Oct 12 j 21:02	21°♂36'39	1°03'13	retrograde	588 Aug 22 j 12:02	5°♂31'03	
minimum elong	582 Oct 12 j 21:03	21°♂36'40	1°03'13	min. Earth dist.	588 Oct 19 j 17:17	0°♂37'17	4.02477 AU
morning rise	582 Oct 25 j 12:13	24°♂23'37		opposition	588 Oct 21 j 02:25	0°♂25'59	-1°-25'-16
	582 Nov 20 j 18:47	0°♂			588 Oct 24 j 06:41	30°♂	
retrograde	583 Feb 23 j 23:01	11°♂35'57		direct	588 Dec 18 j 04:31	25°♂29'07	
opposition	583 Apr 25 j 19:34	6°♂44'08	1°17'33		589 Feb 09 j 21:26	0°♂	
min. Earth dist.	583 Apr 27 j 06:47	6°♂32'54	4.35028 AU	evening set	589 Apr 23 j 05:55	14°♂45'53	
direct	583 Jun 27 j 06:07	1°♂44'21			589 Apr 24 j 06:17	15°♂	
	583 Oct 09 j 12:01	15°♂					
evening set	583 Oct 31 j 02:23	19°♂43'55		conjunction	589 May 06 j 23:15	17°♂57'17	0°-42'-41
max. Earth dist.	583 Nov 10 j 19:03	22°♂08'33	6.29293 AU	minimum elong	589 May 06 j 23:18	17°♂57'19	0°42'42
				max. Earth dist.	589 May 09 j 04:57	18°♂28'32	6.07825 AU
conjunction	583 Nov 12 j 17:51	22°♂35'01	0°38'37	morning rise	589 May 20 j 18:14	21°♂09'18	

	589 Jun 30 j 01:12	0°♂		direct	595 Jul 01 j 15:32	6°♂05'56	
retrograde	589 Sep 26 j 06:40	10°♂31'31			595 Sep 22 j 02:23	15°♂	
opposition	589 Nov 24 j 20:08	5°♂27'13	0°-36'-15	evening set	595 Nov 04 j 08:16	24°♂07'38	
min. Earth dist.	589 Nov 23 j 13:20	5°♂37'42	4.14263 AU	max. Earth dist.	595 Nov 14 j 23:20	26°♂31'55	6.27913 AU
direct	590 Jan 22 j 18:04	0°♂27'22					
evening set	590 May 29 j 10:45	19°♂10'43		conjunction	595 Nov 16 j 23:29	26°♂59'14	0°34'07
				minimum elong	595 Nov 16 j 23:30	26°♂59'15	0°34'07
conjunction	590 Jun 12 j 04:41	22°♂16'31	0°-4'-45	morning rise	595 Nov 29 j 13:58	29°♂50'40	
minimum elong	590 Jun 12 j 04:41	22°♂16'31	0°04'47		595 Nov 30 j 06:31	0°♂	
behind sun begin	590 Jun 11 j 20:32	22°♂11'57		retrograde	596 Apr 02 j 00:50	17°♂57'03	
behind sun end	590 Jun 12 j 12:49	22°♂21'05		opposition	596 Jun 01 j 23:09	13°♂03'56	0°23'26
max. Earth dist.	590 Jun 13 j 19:15	22°♂38'16	6.21156 AU	min. Earth dist.	596 Jun 03 j 05:29	12°♂54'14	4.21082 AU
morning rise	590 Jun 25 j 22:23	25°♂21'53		direct	596 Aug 02 j 07:49	8°♂07'01	
	590 Jul 17 j 01:59	0°♂		desc. node	596 Nov 07 j 12:42	20°♂23'51	
asc. node	590 Jul 29 j 02:44	2°♂30'29		evening set	596 Dec 05 j 13:18	26°♂41'38	
retrograde	590 Oct 28 j 21:26	13°♂37'16		max. Earth dist.	596 Dec 16 j 22:08	29°♂20'46	6.14132 AU
opposition	590 Dec 27 j 13:59	8°♂35'59	0°21'54				
min. Earth dist.	590 Dec 26 j 20:39	8°♂41'48	4.27817 AU	conjunction	596 Dec 18 j 06:23	29°♂39'38	0°-4'-13
direct	591 Feb 25 j 20:22	3°♂33'53		minimum elong	596 Dec 18 j 06:22	29°♂39'38	0°04'13
evening set	591 Jul 02 j 20:19	21°♂43'22		behind sun begin	596 Dec 17 j 22:29	29°♂35'02	
				behind sun end	596 Dec 18 j 14:15	29°♂44'13	
conjunction	591 Jul 16 j 09:25	24°♂41'40	0°33'14		596 Dec 19 j 17:10	0°♂	
minimum elong	591 Jul 16 j 09:23	24°♂41'39	0°33'14	morning rise	596 Dec 30 j 23:56	2°♂38'14	
max. Earth dist.	591 Jul 17 j 00:08	24°♂49'45	6.33916 AU	retrograde	597 May 08 j 01:40	21°♂50'38	
morning rise	591 Jul 29 j 20:19	27°♂38'43		opposition	597 Jul 07 j 17:03	16°♂54'50	0°-36'-30
	591 Aug 09 j 17:41	0°♂		min. Earth dist.	597 Jul 08 j 07:48	16°♂50'02	4.07491 AU
retrograde	591 Nov 28 j 19:44	15°♂00'02		direct	597 Sep 05 j 15:43	12°♂00'20	
	591 Nov 28 j 07:07	15°♂			598 Jan 03 j 16:32	0°♂	
	591 Nov 29 j 08:22	15°♂		evening set	598 Jan 08 j 16:09	1°♂10'56	
opposition	592 Jan 27 j 20:12	10°♂02'34	1°10'18				
min. Earth dist.	592 Jan 27 j 19:11	10°♂02'54	4.38841 AU	conjunction	598 Jan 21 j 13:35	4°♂16'07	0°-42'-38
direct	592 Mar 29 j 08:36	4°♂59'31		minimum elong	598 Jan 21 j 13:33	4°♂16'05	0°42'39
	592 Jun 26 j 18:12	15°♂		max. Earth dist.	598 Jan 21 j 07:10	4°♂12'15	6.01969 AU
evening set	592 Aug 03 j 10:33	22°♂44'30		morning rise	598 Feb 03 j 13:24	7°♂22'41	
					598 Mar 08 j 17:53	15°♂	
conjunction	592 Aug 16 j 15:39	25°♂36'06	1°00'07	retrograde	598 Jun 14 j 17:58	27°♂35'39	
minimum elong	592 Aug 16 j 15:37	25°♂36'05	1°00'07	opposition	598 Aug 14 j 00:23	22°♂35'56	-1°-26'-21
max. Earth dist.	592 Aug 16 j 01:53	25°♂28'38	6.42328 AU	min. Earth dist.	598 Aug 13 j 16:10	22°♂38'39	3.98008 AU
morning rise	592 Aug 29 j 17:58	28°♂26'15		direct	598 Oct 11 j 14:03	17°♂42'28	
	592 Sep 06 j 00:57	0°♂			599 Jan 13 j 08:54	0°♂	
retrograde	592 Dec 28 j 02:38	15°♂17'48		evening set	599 Feb 13 j 19:22	7°♂18'24	
opposition	593 Feb 26 j 10:40	10°♂23'37	1°37'33				
min. Earth dist.	593 Feb 27 j 04:08	10°♂17'58	4.44207 AU	conjunction	599 Feb 26 j 23:58	10°♂29'24	-1°-6'-21
direct	593 Apr 29 j 22:02	5°♂20'46		minimum elong	599 Feb 26 j 23:57	10°♂29'23	1°06'22
evening set	593 Sep 03 j 16:32	22°♂55'40		max. Earth dist.	599 Feb 28 j 02:47	10°♂45'37	5.96017 AU
max. Earth dist.	593 Sep 15 j 02:28	25°♂24'04	6.44143 AU	morning rise	599 Mar 12 j 07:35	13°♂42'05	
					599 May 30 j 02:51	0°♂	
conjunction	593 Sep 16 j 14:17	25°♂43'32	1°09'59	retrograde	599 Jul 22 j 20:26	4°♂21'01	
minimum elong	593 Sep 16 j 14:17	25°♂43'32	1°09'59		599 Sep 15 j 09:42	30°♂	
morning rise	593 Sep 29 j 09:08	28°♂30'03		opposition	599 Sep 20 j 15:32	29°♂17'36	-1°-43'-27
	593 Oct 06 j 08:28	0°♂		min. Earth dist.	599 Sep 19 j 13:28	29°♂26'25	3.96405 AU
retrograde	594 Jan 27 j 14:07	15°♂19'46		direct	599 Nov 17 j 13:41	24°♂23'02	
opposition	594 Mar 29 j 07:04	10°♂27'31	1°38'30		600 Jan 16 j 12:00	0°♂	
min. Earth dist.	594 Mar 30 j 13:08	10°♂17'54	4.42473 AU	evening set	600 Mar 22 j 04:47	14°♂00'26	
direct	594 May 31 j 00:57	5°♂25'57					
evening set	594 Oct 04 j 08:33	23°♂06'39		conjunction	600 Apr 04 j 17:17	17°♂13'46	-1°-4'-17
max. Earth dist.	594 Oct 15 j 02:11	25°♂28'27	6.38914 AU	minimum elong	600 Apr 04 j 17:19	17°♂13'47	1°04'18
				max. Earth dist.	600 Apr 06 j 19:24	17°♂43'39	5.98811 AU
conjunction	594 Oct 17 j 01:23	25°♂54'32	1°00'48	morning rise	600 Apr 18 j 08:41	20°♂28'28	
minimum elong	594 Oct 17 j 01:25	25°♂54'33	1°00'48		600 May 30 j 19:28	0°♂	
morning rise	594 Oct 29 j 15:59	28°♂41'31		retrograde	600 Aug 27 j 13:55	10°♂42'56	
	594 Nov 04 j 15:28	0°♂		min. Earth dist.	600 Oct 24 j 16:50	5°♂49'37	4.03342 AU
retrograde	595 Feb 03 j 10:18	15°♂		opposition	600 Oct 26 j 03:38	5°♂37'45	-1°-19'-40
	595 Mar 25 j 07:07	15°♂		direct	600 Dec 23 j 05:37	0°♂40'27	
opposition	595 Apr 30 j 06:01	11°♂05'22	1°12'24				
min. Earth dist.	595 May 01 j 18:02	10°♂53'55	4.34038 AU				

	600 Jan 16 j 12:00	0°♄		conjunction	605 Sep 20 j 21:54	0°♄05'24	1°09'49
evening set	600 Mar 22 j 04:47	14°♄00'26		minimum elong	605 Sep 20 j 21:54	0°♄05'24	1°09'49
					605 Sep 20 j 11:58	0°♄	
conjunction	600 Apr 04 j 17:17	17°♄13'46	-1°-4'-17	morning rise	605 Oct 03 j 15:56	2°♄51'41	
minimum elong	600 Apr 04 j 17:19	17°♄13'47	1°04'18	retrograde	606 Feb 01 j 00:00	19°♄43'02	
max. Earth dist.	600 Apr 06 j 19:24	17°♄43'39	5.98811 AU	opposition	606 Apr 02 j 17:26	14°♄50'59	1°36'23
morning rise	600 Apr 18 j 08:41	20°♄28'28		min. Earth dist.	606 Apr 04 j 01:52	14°♄40'38	4.41738 AU
	600 May 30 j 19:28	0°♄		direct	606 Jun 04 j 12:26	9°♄49'39	
retrograde	600 Aug 27 j 13:55	10°♄42'56		evening set	606 Oct 08 j 16:39	27°♄32'14	
min. Earth dist.	600 Oct 24 j 16:50	5°♄49'37	4.03342 AU	max. Earth dist.	606 Oct 19 j 07:39	29°♄53'03	6.37683 AU
opposition	600 Oct 26 j 03:38	5°♄37'45	-1°-19'-40		606 Oct 19 j 20:11	0°♄	
direct	600 Dec 23 j 05:37	0°♄40'27					
	601 Apr 06 j 19:53	15°♄		conjunction	606 Oct 21 j 09:03	0°♄20'26	0°57'58
evening set	601 Apr 28 j 11:55	19°♄54'38		minimum elong	606 Oct 21 j 09:05	0°♄20'27	0°57'59
				morning rise	606 Nov 02 j 23:30	3°♄07'51	
conjunction	601 May 12 j 05:42	23°♄05'39	0°-37'-45		607 Jan 01 j 17:46	15°♄	
minimum elong	601 May 12 j 05:45	23°♄05'40	0°37'45	retrograde	607 Mar 04 j 22:28	20°♄29'17	
max. Earth dist.	601 May 14 j 10:08	23°♄36'03	6.09205 AU	opposition	607 May 04 j 21:19	15°♄37'21	1°06'39
morning rise	601 May 26 j 01:03	26°♄17'07		min. Earth dist.	607 May 06 j 08:51	15°♄26'01	4.32381 AU
	601 Jun 11 j 10:30	0°♄			607 May 09 j 18:50	15°♄	
retrograde	601 Oct 01 j 01:51	15°♄30'52		direct	607 Jul 06 j 03:36	10°♄38'11	
min. Earth dist.	601 Nov 28 j 10:08	10°♄36'44	4.15969 AU		607 Aug 30 j 17:28	15°♄	
opposition	601 Nov 29 j 15:37	10°♄26'43	0°-27'-55	evening set	607 Nov 08 j 19:12	28°♄44'13	
direct	602 Jan 27 j 18:29	5°♄26'23			607 Nov 14 j 08:57	0°♄	
evening set	602 Jun 03 j 11:48	24°♄04'54		max. Earth dist.	607 Nov 19 j 12:42	1°♄10'28	6.25971 AU
asc. node	602 Jun 06 j 12:03	24°♄45'17					
				conjunction	607 Nov 21 j 10:38	1°♄36'39	0°29'11
conjunction	602 Jun 17 j 05:30	27°♄09'44	0°01'06	minimum elong	607 Nov 21 j 10:39	1°♄36'40	0°29'10
minimum elong	602 Jun 17 j 05:29	27°♄09'43	0°01'07	morning rise	607 Dec 04 j 01:15	4°♄28'59	
behind sun begin	602 Jun 16 j 21:08	27°♄05'03		retrograde	608 Apr 07 j 00:35	22°♄44'28	
behind sun end	602 Jun 17 j 13:50	27°♄14'23		opposition	608 Jun 06 j 21:41	17°♄51'08	0°15'10
max. Earth dist.	602 Jun 18 j 19:14	27°♄30'55	6.23043 AU	min. Earth dist.	608 Jun 08 j 03:07	17°♄41'42	4.18977 AU
	602 Jun 29 j 21:23	0°♄		direct	608 Aug 07 j 02:08	12°♄54'38	
morning rise	602 Jun 30 j 22:21	0°♄13'55		desc. node	608 Sep 16 j 13:39	15°♄24'06	
retrograde	602 Nov 02 j 09:06	18°♄20'10			608 Dec 03 j 10:36	0°♄	
min. Earth dist.	602 Dec 31 j 11:01	13°♄24'45	4.29682 AU	evening set	608 Dec 10 j 06:25	1°♄34'58	
opposition	603 Jan 01 j 03:13	13°♄19'19	0°29'49				
direct	603 Mar 02 j 13:53	8°♄16'58		conjunction	608 Dec 22 j 23:51	4°♄34'03	0°-9'-59
evening set	603 Jul 07 j 14:48	26°♄21'40		minimum elong	608 Dec 22 j 23:50	4°♄34'02	0°10'00
				behind sun begin	608 Dec 22 j 17:18	4°♄30'13	
conjunction	603 Jul 21 j 02:41	29°♄18'48	0°37'57	behind sun end	608 Dec 23 j 06:22	4°♄37'51	
minimum elong	603 Jul 21 j 02:38	29°♄18'46	0°37'56	max. Earth dist.	608 Dec 21 j 17:12	4°♄16'02	6.12048 AU
max. Earth dist.	603 Jul 21 j 12:14	29°♄24'02	6.35578 AU	morning rise	609 Jan 04 j 18:19	7°♄33'53	
	603 Jul 24 j 05:53	0°♄		retrograde	609 May 13 j 07:40	26°♄56'34	
morning rise	603 Aug 03 j 12:30	2°♄14'40		opposition	609 Jul 12 j 22:28	22°♄00'16	0°-44'-48
	603 Oct 08 j 19:49	15°♄		min. Earth dist.	609 Jul 13 j 09:23	21°♄56'43	4.05627 AU
retrograde	603 Dec 03 j 04:27	19°♄29'28		direct	609 Sep 10 j 15:08	17°♄06'04	
	604 Jan 28 j 17:35	15°♄			609 Dec 17 j 06:02	0°♄	
opposition	604 Feb 01 j 05:32	14°♄32'27	1°15'39	evening set	610 Jan 13 j 17:02	6°♄22'04	
min. Earth dist.	604 Feb 01 j 07:55	14°♄31'40	4.40165 AU				
direct	604 Apr 02 j 23:07	9°♄29'15		conjunction	610 Jan 26 j 15:30	9°♄28'19	0°-47'-16
	604 Jun 05 j 18:14	15°♄		minimum elong	610 Jan 26 j 15:28	9°♄28'17	0°47'17
evening set	604 Aug 07 j 22:39	27°♄11'09		max. Earth dist.	610 Jan 26 j 15:01	9°♄28'01	6.00519 AU
max. Earth dist.	604 Aug 20 j 10:22	29°♄53'04	6.43186 AU	morning rise	610 Feb 08 j 16:13	12°♄35'58	
	604 Aug 20 j 23:09	0°♄			610 Feb 18 j 19:19	15°♄	
					610 May 07 j 10:39	0°♄	
conjunction	604 Aug 21 j 02:46	0°♄01'58	1°02'39	retrograde	610 Jun 20 j 06:09	2°♄55'59	
minimum elong	604 Aug 21 j 02:44	0°♄01'57	1°02'39		610 Aug 03 j 07:48	30°♄	
morning rise	604 Sep 03 j 03:46	2°♄51'16		opposition	610 Aug 19 j 09:47	27°♄55'46	-1°-31'-13
retrograde	605 Jan 01 j 08:09	19°♄40'16		min. Earth dist.	610 Aug 18 j 23:14	27°♄59'17	3.97164 AU
opposition	605 Mar 02 j 18:51	14°♄46'23	1°39'19	direct	610 Oct 16 j 20:53	23°♄02'22	
min. Earth dist.	605 Mar 03 j 13:40	14°♄40'19	4.44560 AU		610 Dec 23 j 10:45	0°♄	
direct	605 May 04 j 07:22	9°♄43'39		evening set	611 Feb 19 j 02:32	12°♄40'26	
evening set	605 Sep 08 j 01:08	27°♄17'52					
max. Earth dist.	605 Sep 19 j 07:32	29°♄44'32	6.43949 AU	conjunction	611 Mar 04 j 08:14	15°♄52'02	-1°-7'-44

minimum elong	611 Mar 04 j 08:13	15° κ 52'02	1°07'46	minimum elong	616 Aug 25 j 10:50	4° η 22'15	1°04'45
max. Earth dist.	611 Mar 05 j 15:31	16° κ 10'55	5.95862 AU	max. Earth dist.	616 Aug 24 j 13:11	4° η 10'31	6.43638 AU
morning rise	611 Mar 17 j 17:08	19° κ 05'20		morning rise	616 Sep 07 j 10:55	7° η 10'59	
	611 May 05 j 06:48	0° γ		retrograde	617 Jan 05 j 14:56	23° η 59'03	
retrograde	611 Jul 28 j 04:48	9° γ 43'43		opposition	617 Mar 07 j 01:27	19° η 05'34	1°40'33
opposition	611 Sep 25 j 23:10	4° γ 39'55	-1°-42'-25	min. Earth dist.	617 Mar 07 j 23:44	18° η 58'22	4.44419 AU
min. Earth dist.	611 Sep 24 j 18:04	4° γ 49'46	3.97005 AU	direct	617 May 08 j 16:30	14° η 02'53	
	611 Nov 10 j 20:58	30° κ			617 Sep 04 j 17:37	0° ♎	
direct	611 Nov 22 j 19:35	29° κ 45'06		evening set	617 Sep 12 j 08:10	1° ♎ 38'05	
	611 Dec 04 j 19:25	0° γ		max. Earth dist.	617 Sep 23 j 11:56	4° ♎ 03'36	6.43215 AU
evening set	612 Mar 27 j 13:24	19° γ 19'59					
				conjunction	617 Sep 25 j 04:21	4° ♎ 25'38	1°09'17
conjunction	612 Apr 10 j 02:46	22° γ 33'08	-1°-1'-47	minimum elong	617 Sep 25 j 04:21	4° ♎ 25'39	1°09'17
minimum elong	612 Apr 10 j 02:49	22° γ 33'09	1°01'48	morning rise	617 Oct 07 j 21:38	7° ♎ 11'56	
max. Earth dist.	612 Apr 12 j 06:06	23° γ 03'39	6.00089 AU	retrograde	618 Feb 05 j 08:45	24° ♎ 06'48	
morning rise	612 Apr 23 j 19:02	25° γ 47'36		opposition	618 Apr 07 j 03:42	19° ♎ 14'51	1°33'45
	612 May 11 j 22:25	0° ♄		min. Earth dist.	618 Apr 08 j 12:25	19° ♎ 04'25	4.40473 AU
	612 Aug 09 j 01:49	15° ♄		direct	618 Jun 08 j 20:23	14° ♎ 13'46	
retrograde	612 Sep 01 j 14:10	15° ♄ 54'10			618 Oct 03 j 21:41	0° ♍	
	612 Sep 24 j 22:40	15° ♄		evening set	618 Oct 13 j 00:55	1° ♍ 59'55	
min. Earth dist.	612 Oct 29 j 17:55	11° ♄ 00'44	4.05134 AU	max. Earth dist.	618 Oct 23 j 15:37	4° ♍ 21'09	6.35987 AU
opposition	612 Oct 31 j 04:33	10° ♄ 48'54	-1°-13'-30				
direct	612 Dec 28 j 10:04	5° ♄ 51'09		conjunction	618 Oct 25 j 17:00	4° ♍ 48'39	0°54'49
	613 Mar 18 j 14:50	15° ♄		minimum elong	618 Oct 25 j 17:02	4° ♍ 48'40	0°54'49
evening set	613 May 03 j 16:31	24° ♄ 59'35		morning rise	618 Nov 07 j 07:18	7° ♍ 36'41	
					618 Dec 12 j 02:39	15° ♍	
conjunction	613 May 17 j 10:44	28° ♄ 09'46	0°-32'-38	retrograde	619 Mar 09 j 16:41	25° ♍ 05'31	
minimum elong	613 May 17 j 10:46	28° ♄ 09'47	0°32'40	opposition	619 May 09 j 14:21	20° ♍ 13'31	1°00'27
max. Earth dist.	613 May 19 j 15:29	28° ♄ 40'12	6.11359 AU	min. Earth dist.	619 May 11 j 02:25	20° ♍ 02'02	4.30347 AU
	613 May 25 j 10:02	0° ♅		direct	619 Jul 10 j 18:13	15° ♍ 14'44	
morning rise	613 May 31 j 05:54	1° ♅ 20'12			619 Oct 28 j 23:31	0° ♅	
retrograde	613 Oct 05 j 18:08	20° ♅ 23'00		evening set	619 Nov 13 j 07:57	3° ♅ 26'07	
min. Earth dist.	613 Dec 03 j 04:00	15° ♅ 28'48	4.18246 AU	max. Earth dist.	619 Nov 24 j 02:14	5° ♅ 53'34	6.23779 AU
opposition	613 Dec 04 j 08:08	15° ♅ 19'16	0°-19'-38				
direct	614 Feb 01 j 15:25	10° ♅ 18'37		conjunction	619 Nov 25 j 23:30	6° ♅ 19'30	0°24'00
asc. node	614 Apr 16 j 03:56	17° ♅ 51'51		minimum elong	619 Nov 25 j 23:32	6° ♅ 19'31	0°24'01
evening set	614 Jun 08 j 09:28	28° ♅ 50'53		morning rise	619 Dec 08 j 14:38	9° ♅ 12'56	
	614 Jun 13 j 13:35	0° ♆		retrograde	620 Apr 12 j 01:29	27° ♅ 38'17	
				opposition	620 Jun 11 j 22:21	22° ♅ 44'34	0°06'40
conjunction	614 Jun 22 j 02:26	1° ♆ 54'29	0°06'42	min. Earth dist.	620 Jun 13 j 00:33	22° ♅ 36'10	4.16796 AU
minimum elong	614 Jun 22 j 02:24	1° ♆ 54'28	0°06'43	desc. node	620 Jul 26 j 06:32	18° ♅ 14'39	
behind sun begin	614 Jun 21 j 18:39	1° ♆ 50'10		direct	620 Aug 11 j 20:45	17° ♅ 48'27	
behind sun end	614 Jun 22 j 10:09	1° ♆ 58'47			620 Nov 16 j 00:47	0° ♆	
max. Earth dist.	614 Jun 23 j 11:08	2° ♆ 12'45	6.25242 AU	evening set	620 Dec 15 j 01:56	6° ♆ 34'35	
morning rise	614 Jul 05 j 18:39	4° ♆ 57'24					
retrograde	614 Nov 06 j 18:03	22° ♆ 54'24		conjunction	620 Dec 27 j 20:00	9° ♆ 34'45	0°-15'-46
opposition	615 Jan 05 j 13:09	17° ♆ 54'04	0°37'14	minimum elong	620 Dec 27 j 19:59	9° ♆ 34'44	0°15'48
min. Earth dist.	615 Jan 05 j 00:01	17° ♆ 58'28	4.31623 AU	behind sun begin	620 Dec 27 j 18:00	9° ♆ 33'34	
direct	615 Mar 07 j 05:05	12° ♆ 51'28		behind sun end	620 Dec 27 j 21:59	9° ♆ 35'54	
	615 Jul 08 j 05:39	0° ♁		max. Earth dist.	620 Dec 26 j 18:35	9° ♆ 19'44	6.10089 AU
evening set	615 Jul 12 j 05:02	0° ♁ 51'36		morning rise	621 Jan 09 j 15:07	12° ♆ 35'44	
					621 Apr 11 j 09:16	0° ♁	
conjunction	615 Jul 25 j 16:01	3° ♁ 47'41	0°42'17	retrograde	621 May 18 j 17:13	2° ♁ 07'48	
minimum elong	615 Jul 25 j 15:58	3° ♁ 47'39	0°42'17		621 Jun 25 j 04:53	30° ♁	
max. Earth dist.	615 Jul 25 j 22:32	3° ♁ 51'15	6.37112 AU	opposition	621 Jul 18 j 05:53	27° ♁ 10'58	0°-52'-52
morning rise	615 Aug 08 j 00:27	6° ♁ 42'24		min. Earth dist.	621 Jul 18 j 14:16	27° ♁ 08'13	4.04071 AU
	615 Sep 17 j 07:47	15° ♁		direct	621 Sep 15 j 18:37	22° ♁ 16'59	
retrograde	615 Dec 07 j 09:11	23° ♁ 51'48			621 Nov 27 j 04:56	0° ♁	
opposition	616 Feb 05 j 11:53	18° ♁ 55'19	1°20'25	evening set	622 Jan 18 j 19:31	11° ♁ 36'50	
min. Earth dist.	616 Feb 05 j 16:32	18° ♁ 53'48	4.41205 AU				
	616 Mar 11 j 00:40	15° ♁		conjunction	622 Jan 31 j 18:49	14° ♁ 43'54	0°-51'-33
direct	616 Apr 07 j 08:17	13° ♁ 52'09		minimum elong	622 Jan 31 j 18:46	14° ♁ 43'53	0°51'34
	616 May 04 j 23:59	15° ♁		max. Earth dist.	622 Jan 31 j 22:50	14° ♁ 46'19	5.99500 AU
	616 Aug 05 j 03:35	0° ♁			622 Feb 01 j 21:33	15° ♁	
evening set	616 Aug 12 j 08:01	1° ♁ 32'07		morning rise	622 Feb 13 j 20:41	17° ♁ 52'29	
					622 Apr 09 j 19:18	0° ♁	
conjunction	616 Aug 25 j 10:52	4° ♁ 22'16	1°04'45	retrograde	622 Jun 25 j 16:07	8° ♁ 17'04	

opposition	622 Aug 24 j 19:03	3° Υ 16'16	-1°-35'-17		628 Jul 19 j 10:10	0° Υ	
min. Earth dist.	622 Aug 24 j 04:26	3° Υ 21'08	3.96823 AU	evening set	628 Aug 16 j 17:45	5° Υ 54'00	
	622 Sep 20 j 18:08	30° Υ ≈					
direct	622 Oct 22 j 02:21	28° Υ ≈22'46		conjunction	628 Aug 29 j 19:45	8° Υ 43'41	1°06'31
	622 Nov 22 j 06:01	0° Υ		minimum elong	628 Aug 29 j 19:43	8° Υ 43'40	1°06'30
evening set	623 Feb 24 j 09:36	18° Υ 00'58		max. Earth dist.	628 Aug 28 j 20:02	8° Υ 30'50	6.43828 AU
				morning rise	628 Sep 11 j 18:35	11° Υ 31'54	
conjunction	623 Mar 09 j 16:17	21° Υ 12'52	-1°-8'-34	retrograde	629 Jan 09 j 21:20	28° Υ 19'55	
minimum elong	623 Mar 09 j 16:17	21° Υ 12'52	1°08'34	opposition	629 Mar 11 j 09:26	23° Υ 26'48	1°41'14
max. Earth dist.	623 Mar 11 j 02:55	21° Υ 33'45	5.96192 AU	min. Earth dist.	629 Mar 12 j 08:59	23° Υ 19'13	4.44092 AU
morning rise	623 Mar 23 j 02:16	24° Υ 26'28		direct	629 May 13 j 00:32	18° Υ 24'22	
	623 Apr 15 j 20:44	0° Υ			629 Aug 18 j 23:41	0° Υ	
retrograde	623 Aug 02 j 10:24	15° Υ 02'02		evening set	629 Sep 16 j 16:26	6° Υ 00'57	
min. Earth dist.	623 Sep 29 j 22:19	10° Υ 08'08	3.97962 AU	max. Earth dist.	629 Sep 27 j 16:22	8° Υ 24'48	6.42383 AU
opposition	623 Oct 01 j 04:40	9° Υ 57'50	-1°-40'-32				
direct	623 Nov 28 j 01:53	5° Υ 02'37		conjunction	629 Sep 29 j 11:43	8° Υ 48'31	1°08'21
evening set	624 Apr 01 j 20:16	24° Υ 33'53		minimum elong	629 Sep 29 j 11:44	8° Υ 48'32	1°08'21
				morning rise	629 Oct 12 j 04:32	11° Υ 34'57	
conjunction	624 Apr 15 j 10:40	27° Υ 46'47	0°-58'-49	retrograde	630 Feb 09 j 21:50	28° Υ 33'44	
minimum elong	624 Apr 15 j 10:43	27° Υ 46'48	0°58'50	opposition	630 Apr 11 j 15:52	23° Υ 41'57	1°30'33
max. Earth dist.	624 Apr 17 j 16:37	28° Υ 18'42	6.01585 AU	min. Earth dist.	630 Apr 13 j 02:18	23° Υ 30'59	4.39198 AU
	624 Apr 24 j 20:05	0° Υ		direct	630 Jun 13 j 08:10	18° Υ 41'12	
morning rise	624 Apr 29 j 03:29	1° Υ 00'48			630 Sep 16 j 21:34	0° Υ	
	624 Jul 04 j 17:54	15° Υ		evening set	630 Oct 17 j 10:26	6° Υ 30'48	
retrograde	624 Sep 06 j 13:28	20° Υ 58'39		max. Earth dist.	630 Oct 28 j 01:11	8° Υ 52'36	6.34383 AU
min. Earth dist.	624 Nov 03 j 16:45	16° Υ 05'06	4.06995 AU				
opposition	624 Nov 05 j 02:49	15° Υ 53'29	-1°-6'-53	conjunction	630 Oct 30 j 02:23	9° Υ 20'06	0°51'18
	624 Nov 11 j 16:34	15° Υ		minimum elong	630 Oct 30 j 02:25	9° Υ 20'07	0°51'17
direct	625 Jan 02 j 11:22	10° Υ 55'20		morning rise	630 Nov 11 j 16:32	12° Υ 08'46	
	625 Feb 22 j 17:15	15° Υ			630 Nov 24 j 15:54	15° Υ	
evening set	625 May 08 j 19:06	29° Υ 58'10		retrograde	631 Mar 14 j 10:03	29° Υ 44'44	
	625 May 08 j 22:19	0° Υ		opposition	631 May 14 j 08:34	24° Υ 52'37	0°53'47
conjunction	625 May 22 j 13:19	3° Υ 07'29	0°-27'-23	min. Earth dist.	631 May 15 j 18:39	24° Υ 41'45	4.28537 AU
minimum elong	625 May 22 j 13:21	3° Υ 07'30	0°27'24	direct	631 Jul 15 j 07:26	19° Υ 54'18	
max. Earth dist.	625 May 24 j 14:56	3° Υ 35'56	6.13414 AU		631 Oct 11 j 04:28	0° Υ	
morning rise	625 Jun 05 j 08:34	6° Υ 16'58		evening set	631 Nov 17 j 21:27	8° Υ 10'14	
retrograde	625 Oct 10 j 07:35	25° Υ 09'41		max. Earth dist.	631 Nov 28 j 18:58	10° Υ 40'11	6.21932 AU
opposition	625 Dec 08 j 22:49	20° Υ 06'20	0°-11'-22	conjunction	631 Nov 30 j 13:09	11° Υ 04'28	0°18'39
min. Earth dist.	625 Dec 07 j 20:22	20° Υ 15'18	4.20297 AU	minimum elong	631 Nov 30 j 13:10	11° Υ 04'29	0°18'39
direct	626 Feb 06 j 10:29	15° Υ 05'19		morning rise	631 Dec 13 j 04:37	13° Υ 58'50	
asc. node	626 Feb 23 j 22:53	15° Υ 35'05			632 Mar 06 j 22:50	0° Υ	
	626 May 28 j 00:42	0° Υ		retrograde	632 Apr 17 j 04:22	2° Υ 32'59	
evening set	626 Jun 13 j 05:34	3° Υ 32'26			632 May 28 j 20:37	30° Υ 12'58	
conjunction	626 Jun 26 j 22:01	6° Υ 34'58	0°12'10	desc. node	632 Jun 04 j 13:22	29° Υ 12'58	
minimum elong	626 Jun 26 j 22:00	6° Υ 34'57	0°12'10	opposition	632 Jun 16 j 23:34	27° Υ 38'56	0°-1'-51
behind sun begin	626 Jun 26 j 16:33	6° Υ 31'56		min. Earth dist.	632 Jun 18 j 00:08	27° Υ 31'02	4.15045 AU
behind sun end	626 Jun 27 j 03:27	6° Υ 37'59		direct	632 Aug 16 j 18:24	22° Υ 43'13	
max. Earth dist.	626 Jun 28 j 03:39	6° Υ 51'28	6.27148 AU		632 Oct 27 j 04:18	0° Υ	
morning rise	626 Jul 10 j 13:12	9° Υ 36'40		evening set	632 Dec 19 j 20:58	11° Υ 33'33	
retrograde	626 Nov 11 j 03:16	27° Υ 25'42		conjunction	633 Jan 01 j 15:33	14° Υ 34'35	0°-21'-24
opposition	627 Jan 09 j 22:23	22° Υ 25'59	0°44'24	minimum elong	633 Jan 01 j 15:32	14° Υ 34'34	0°21'25
min. Earth dist.	627 Jan 09 j 12:00	22° Υ 29'27	4.33236 AU	max. Earth dist.	632 Dec 31 j 17:50	14° Υ 21'43	6.08598 AU
direct	627 Mar 11 j 18:44	17° Υ 23'16		morning rise	633 Jan 14 j 11:28	17° Υ 36'33	
	627 Jun 21 j 13:07	0° Υ			633 Mar 13 j 02:18	0° Υ ≈	
evening set	627 Jul 16 j 19:15	5° Υ 20'01		retrograde	633 May 23 j 22:34	7° Υ ≈16'08	
				opposition	633 Jul 23 j 11:29	2° Υ ≈18'46	-1°00'-22
conjunction	627 Jul 30 j 05:03	8° Υ 15'09	0°46'22	min. Earth dist.	633 Jul 23 j 15:40	2° Υ ≈17'24	4.03007 AU
minimum elong	627 Jul 30 j 05:00	8° Υ 15'08	0°46'23		633 Aug 10 j 21:32	30° Υ ≈	
max. Earth dist.	627 Jul 30 j 06:08	8° Υ 15'45	6.38301 AU	direct	633 Sep 20 j 19:09	27° Υ ≈25'01	
morning rise	627 Aug 12 j 12:27	11° Υ 08'57			633 Oct 30 j 23:30	0° Υ ≈	
	627 Aug 30 j 14:19	15° Υ			634 Jan 16 j 08:16	15° Υ ≈	
retrograde	627 Dec 11 j 15:30	28° Υ 14'10		evening set	634 Jan 23 j 20:18	16° Υ ≈47'08	
opposition	628 Feb 09 j 18:50	23° Υ 18'10	1°24'45				
min. Earth dist.	628 Feb 10 j 02:31	23° Υ 15'39	4.41924 AU	conjunction	634 Feb 05 j 20:22	19° Υ ≈54'48	0°-55'-19
direct	628 Apr 11 j 18:15	18° Υ 14'58		minimum elong	634 Feb 05 j 20:20	19° Υ ≈54'47	0°55'21

max. Earth dist.	634 Feb 06 j 04:46	19° \approx 59'52	5.98942 AU	min. Earth dist.	640 Feb 14 j 11:42	27° Ω 37'07	4.42376 AU
morning rise	634 Feb 18 j 23:12	23° \approx 04'03		direct	640 Apr 16 j 03:57	22° Ω 37'16	
	634 Mar 20 j 20:44	0° \mathbb{H}			640 Jun 30 j 12:33	0° \mathbb{M}	
retrograde	634 Jun 30 j 22:46	13° \mathbb{H} 31'25		evening set	640 Aug 21 j 03:09	10° \mathbb{M} 15'44	
min. Earth dist.	634 Aug 29 j 07:52	8° \mathbb{H} 35'41	3.96842 AU	max. Earth dist.	640 Sep 02 j 00:17	12° \mathbb{M} 49'57	6.43838 AU
opposition	634 Aug 30 j 00:50	8° \mathbb{H} 30'00	-1°-38'-26				
direct	634 Oct 27 j 06:43	3° \mathbb{H} 36'20		conjunction	640 Sep 03 j 04:01	13° \mathbb{M} 05'00	1°07'52
evening set	635 Mar 01 j 13:20	23° \mathbb{H} 13'38		minimum elong	640 Sep 03 j 04:00	13° \mathbb{M} 04'59	1°07'52
				morning rise	640 Sep 16 j 02:01	15° \mathbb{M} 52'50	
conjunction	635 Mar 14 j 21:12	26° \mathbb{H} 25'46	-1°-8'-48		640 Dec 02 j 20:59	0° $\underline{\Omega}$	
minimum elong	635 Mar 14 j 21:12	26° \mathbb{H} 25'46	1°08'48	retrograde	641 Jan 14 j 05:29	2° $\underline{\Omega}$ 41'13	
max. Earth dist.	635 Mar 16 j 12:16	26° \mathbb{H} 49'16	5.96773 AU		641 Feb 25 j 23:34	30° \mathbb{R} \mathbb{M}	
morning rise	635 Mar 28 j 08:05	29° \mathbb{H} 39'30		opposition	641 Mar 15 j 17:47	27° \mathbb{M} 48'18	1°41'19
	635 Mar 29 j 18:28	0° \mathbb{Y}		min. Earth dist.	641 Mar 16 j 19:13	27° \mathbb{M} 40'07	4.43688 AU
retrograde	635 Aug 07 j 13:04	20° \mathbb{Y} 11'14		direct	641 May 17 j 10:01	22° \mathbb{M} 46'00	
min. Earth dist.	635 Oct 04 j 23:04	15° \mathbb{Y} 17'17	3.99053 AU		641 Jul 31 j 00:33	0° $\underline{\Omega}$	
opposition	635 Oct 06 j 06:04	15° \mathbb{Y} 06'46	-1°-37'-54	evening set	641 Sep 21 j 00:18	10° $\underline{\Omega}$ 23'44	
direct	635 Dec 03 j 03:53	10° \mathbb{Y} 11'12		max. Earth dist.	641 Oct 01 j 23:51	12° $\underline{\Omega}$ 47'39	6.41592 AU
evening set	636 Apr 06 j 23:18	29° \mathbb{Y} 38'41					
	636 Apr 08 j 11:39	0° \mathbb{B}		conjunction	641 Oct 03 j 19:06	13° $\underline{\Omega}$ 11'22	1°07'00
conjunction	636 Apr 20 j 14:19	2° \mathbb{B} 51'13	0°-55'-30	minimum elong	641 Oct 03 j 19:07	13° $\underline{\Omega}$ 11'22	1°07'00
minimum elong	636 Apr 20 j 14:22	2° \mathbb{B} 51'15	0°55'31	morning rise	641 Oct 16 j 11:10	15° $\underline{\Omega}$ 57'51	
max. Earth dist.	636 Apr 22 j 19:16	3° \mathbb{B} 22'25	6.03055 AU	retrograde	641 Dec 31 j 07:57	0° \mathbb{M}	
morning rise	636 May 04 j 07:55	6° \mathbb{B} 04'50			642 Feb 14 j 08:11	3° \mathbb{M} 00'11	
	636 Jun 13 j 09:41	15° \mathbb{B}		opposition	642 Apr 01 j 04:05	30° \mathbb{R} $\underline{\Omega}$	
retrograde	636 Sep 11 j 06:55	25° \mathbb{B} 54'25		min. Earth dist.	642 Apr 16 j 04:02	28° $\underline{\Omega}$ 08'24	1°26'47
min. Earth dist.	636 Nov 08 j 11:23	21° \mathbb{B} 00'52	4.08685 AU	direct	642 Apr 17 j 14:10	27° $\underline{\Omega}$ 57'32	4.38059 AU
opposition	636 Nov 09 j 21:08	20° \mathbb{B} 49'22	-1°00'-2		642 Jun 17 j 18:01	23° $\underline{\Omega}$ 07'58	
direct	637 Jan 07 j 08:32	15° \mathbb{B} 50'45			642 Aug 28 j 13:45	0° \mathbb{M}	
	637 Apr 22 j 04:36	0° \mathbb{I}		evening set	642 Oct 21 j 19:17	11° \mathbb{M} 00'06	
evening set	637 May 13 j 18:08	4° \mathbb{I} 48'56		max. Earth dist.	642 Nov 01 j 09:31	13° \mathbb{M} 22'10	6.32966 AU
conjunction	637 May 27 j 12:34	7° \mathbb{I} 57'30	0°-22'-6	conjunction	642 Nov 03 j 10:50	13° \mathbb{M} 49'50	0°47'28
minimum elong	637 May 27 j 12:35	7° \mathbb{I} 57'31	0°22'07	minimum elong	642 Nov 03 j 10:52	13° \mathbb{M} 49'51	0°47'28
max. Earth dist.	637 May 29 j 12:00	8° \mathbb{I} 24'38	6.15202 AU	morning rise	642 Nov 08 j 15:56	15° \mathbb{M}	
morning rise	637 Jun 10 j 07:29	11° \mathbb{I} 06'05			642 Nov 16 j 01:03	16° \mathbb{M} 39'04	
retrograde	637 Oct 14 j 20:38	29° \mathbb{I} 50'02		retrograde	643 Jan 23 j 07:05	0° \mathbb{J}	
min. Earth dist.	637 Dec 12 j 11:09	24° \mathbb{I} 55'09	4.22006 AU		643 Mar 19 j 04:51	4° \mathbb{J} 21'33	
opposition	637 Dec 13 j 10:47	24° \mathbb{I} 47'09	0°-3'-18	opposition	643 May 15 j 01:42	30° \mathbb{R} \mathbb{M}	
asc. node	638 Jan 04 j 22:30	21° \mathbb{I} 56'21		min. Earth dist.	643 May 19 j 02:27	29° \mathbb{M} 29'13	0°46'48
direct	638 Feb 11 j 03:06	19° \mathbb{I} 45'50		direct	643 May 20 j 12:29	29° \mathbb{M} 18'21	4.26887 AU
	638 May 10 j 08:18	0° \mathbb{S}			643 Jul 19 j 23:15	24° \mathbb{M} 31'11	
evening set	638 Jun 17 j 23:20	8° \mathbb{S} 09'03		evening set	643 Sep 20 j 06:34	0° \mathbb{J}	
				max. Earth dist.	643 Nov 22 j 09:47	12° \mathbb{J} 50'59	
conjunction	638 Jul 01 j 15:06	11° \mathbb{S} 10'41	0°17'25		643 Dec 03 j 09:45	15° \mathbb{J} 22'55	6.20184 AU
minimum elong	638 Jul 01 j 15:05	11° \mathbb{S} 10'40	0°17'25	conjunction	643 Dec 05 j 01:46	15° \mathbb{J} 46'01	0°13'13
max. Earth dist.	638 Jul 02 j 16:44	11° \mathbb{S} 24'54	6.28651 AU	minimum elong	643 Dec 05 j 01:47	15° \mathbb{J} 46'02	0°13'12
morning rise	638 Jul 15 j 05:32	14° \mathbb{S} 11'23		behind sun begin	643 Dec 04 j 20:57	15° \mathbb{J} 43'15	
	638 Oct 11 j 12:08	0° Ω		behind sun end	643 Dec 05 j 06:36	15° \mathbb{J} 48'48	
retrograde	638 Nov 15 j 09:33	1° Ω 54'00		morning rise	643 Dec 17 j 17:36	18° \mathbb{J} 41'17	
	638 Dec 20 j 03:32	30° \mathbb{R} \mathbb{S}			644 Feb 09 j 04:44	0° \mathbb{Z}	
opposition	639 Jan 14 j 06:18	26° \mathbb{S} 54'47	0°51'07	desc. node	644 Apr 14 j 08:00	7° \mathbb{Z} 18'05	
min. Earth dist.	639 Jan 13 j 21:57	26° \mathbb{S} 57'34	4.34449 AU	retrograde	644 Apr 22 j 03:24	7° \mathbb{Z} 23'51	
direct	639 Mar 16 j 05:43	21° \mathbb{S} 51'55		opposition	644 Jun 21 j 23:15	2° \mathbb{Z} 29'25	0°-10'-22
	639 Jun 03 j 00:06	0° Ω		min. Earth dist.	644 Jun 22 j 20:58	2° \mathbb{Z} 22'25	4.13321 AU
evening set	639 Jul 21 j 07:56	9° Ω 46'25			644 Jul 12 j 05:43	30° \mathbb{R} \mathbb{J}	
conjunction	639 Aug 03 j 16:46	12° Ω 40'47	0°50'06	direct	644 Aug 21 j 12:34	27° \mathbb{J} 34'02	
minimum elong	639 Aug 03 j 16:44	12° Ω 40'46	0°50'07		644 Sep 30 j 04:41	0° \mathbb{Z}	
max. Earth dist.	639 Aug 03 j 14:53	12° Ω 39'45	6.39149 AU	evening set	644 Dec 24 j 15:13	16° \mathbb{Z} 28'47	
	639 Aug 14 j 08:35	15° Ω		conjunction	645 Jan 06 j 10:17	19° \mathbb{Z} 30'43	0°-26'-51
morning rise	639 Aug 16 j 22:56	15° Ω 33'45		minimum elong	645 Jan 06 j 10:16	19° \mathbb{Z} 30'42	0°26'51
	639 Nov 04 j 11:45	0° \mathbb{M}		max. Earth dist.	645 Jan 05 j 15:52	19° \mathbb{Z} 19'47	6.07042 AU
retrograde	639 Dec 15 j 21:47	2° \mathbb{M} 35'54		morning rise	645 Jan 19 j 07:01	22° \mathbb{Z} 33'43	
	640 Jan 26 j 11:06	30° \mathbb{R} Ω			645 Feb 20 j 23:17	0° \approx	
opposition	640 Feb 14 j 01:40	27° Ω 40'23	1°28'33	retrograde	645 May 29 j 05:03	12° \approx 21'19	

opposition	645 Jul 28 j 16:02	7° \approx 23'24	-1°-7'-26		651 May 09 j 20:14	0° Ω	
min. Earth dist.	645 Jul 28 j 17:45	7° \approx 22'50	4.01757 AU	evening set	651 Jul 25 j 22:21	14° Ω 17'18	
direct	645 Sep 25 j 20:20	2° \approx 29'44			651 Jul 29 j 05:20	15° Ω	
	645 Dec 30 j 01:19	15° \approx					
evening set	646 Jan 28 j 20:40	21° \approx 55'11		conjunction	651 Aug 08 j 06:03	17° Ω 10'43	0°53'39
				minimum elong	651 Aug 08 j 06:00	17° Ω 10'41	0°53'38
conjunction	646 Feb 10 j 21:50	25° \approx 03'41	0°-58'-41	max. Earth dist.	651 Aug 08 j 01:10	17° Ω 08'04	6.40429 AU
minimum elong	646 Feb 10 j 21:47	25° \approx 03'40	0°58'42	morning rise	651 Aug 21 j 10:57	20° Ω 02'40	
max. Earth dist.	646 Feb 11 j 11:22	25° \approx 11'51	5.98117 AU		651 Oct 10 j 03:53	0° \mp	
morning rise	646 Feb 24 j 01:39	28° \approx 13'46		retrograde	651 Dec 20 j 03:16	7° \mp 00'17	
	646 Mar 03 j 12:03	0° \times		opposition	652 Feb 18 j 09:26	2° \mp 05'10	1°31'53
retrograde	646 Jul 06 j 06:32	18° \times 44'54		min. Earth dist.	652 Feb 18 j 20:47	2° \mp 01'29	4.43362 AU
min. Earth dist.	646 Sep 03 j 11:25	13° \times 49'26	3.96556 AU		652 Mar 05 j 22:45	30° $\mathcal{R}\Omega$	
opposition	646 Sep 04 j 06:30	13° \times 43'02	-1°-40'-51	direct	652 Apr 20 j 14:15	27° Ω 02'08	
direct	646 Nov 01 j 09:17	8° \times 49'16			652 Jun 05 j 12:09	0° \mp	
evening set	647 Mar 06 j 18:15	28° \times 27'10		evening set	652 Aug 25 j 12:16	14° \mp 38'07	
	647 Mar 13 j 05:14	0° Υ		max. Earth dist.	652 Sep 06 j 06:58	17° \mp 10'55	6.44458 AU
conjunction	647 Mar 20 j 03:03	1° Υ 39'39	-1°-8'-30	conjunction	652 Sep 07 j 12:06	17° \mp 26'42	1°08'52
minimum elong	647 Mar 20 j 03:04	1° Υ 39'39	1°08'31	minimum elong	652 Sep 07 j 12:05	17° \mp 26'42	1°08'52
max. Earth dist.	647 Mar 21 j 19:31	2° Υ 03'57	5.97021 AU	morning rise	652 Sep 20 j 08:55	20° \mp 13'52	
morning rise	647 Apr 02 j 15:13	4° Υ 53'47			652 Nov 08 j 04:23	0° $\underline{\Omega}$	
retrograde	647 Aug 12 j 15:20	25° Υ 22'51		retrograde	653 Jan 18 j 11:11	7° $\underline{\Omega}$ 00'47	
min. Earth dist.	647 Oct 09 j 23:32	20° Υ 29'17	3.99813 AU	opposition	653 Mar 20 j 01:28	2° $\underline{\Omega}$ 08'08	1°40'50
opposition	647 Oct 11 j 08:12	20° Υ 18'10	-1°-34'-31	min. Earth dist.	653 Mar 21 j 04:28	1° $\underline{\Omega}$ 59'29	4.43900 AU
direct	647 Dec 08 j 06:14	15° Υ 22'13			653 Apr 06 j 06:26	30° $\mathcal{R}\mp$	
	648 Mar 22 j 08:20	0° \mathcal{R}		direct	653 May 21 j 19:18	27° \mp 06'05	
evening set	648 Apr 12 j 04:34	4° \mathcal{R} 47'27			653 Jul 06 j 05:57	0° $\underline{\Omega}$	
				evening set	653 Sep 25 j 06:09	14° $\underline{\Omega}$ 42'49	
conjunction	648 Apr 25 j 20:32	7° \mathcal{R} 59'51	0°-51'-43	max. Earth dist.	653 Oct 06 j 02:02	17° $\underline{\Omega}$ 04'56	6.41362 AU
minimum elong	648 Apr 25 j 20:34	7° \mathcal{R} 59'53	0°51'43				
max. Earth dist.	648 Apr 28 j 02:11	8° \mathcal{R} 31'23	6.04266 AU	conjunction	653 Oct 08 j 00:05	17° $\underline{\Omega}$ 30'13	1°05'20
morning rise	648 May 09 j 14:35	11° \mathcal{R} 13'08		minimum elong	653 Oct 08 j 00:06	17° $\underline{\Omega}$ 30'13	1°05'19
	648 May 26 j 01:56	15° \mathcal{R}		morning rise	653 Oct 20 j 15:44	20° $\underline{\Omega}$ 16'36	
	648 Aug 23 j 08:47	0° Π			653 Dec 07 j 12:03	0° \mathcal{M}	
retrograde	648 Sep 16 j 05:08	0° Π 55'20		retrograde	654 Feb 18 j 17:13	7° \mathcal{M} 20'58	
	648 Oct 09 j 18:15	30° $\mathcal{R}\mathcal{R}$		opposition	654 Apr 20 j 13:47	2° \mathcal{M} 29'09	1°22'37
min. Earth dist.	648 Nov 13 j 09:23	26° \mathcal{R} 01'28	4.10193 AU	min. Earth dist.	654 Apr 22 j 01:00	2° \mathcal{M} 17'56	4.37381 AU
opposition	648 Nov 14 j 17:35	25° \mathcal{R} 50'29	0°-52'-38		654 May 11 j 00:33	30° $\mathcal{R}\underline{\Omega}$	
direct	649 Jan 12 j 08:40	20° \mathcal{R} 51'30		direct	654 Jun 22 j 03:34	27° $\underline{\Omega}$ 28'56	
	649 Apr 03 j 05:41	0° Π			654 Aug 02 j 23:55	0° \mathcal{M}	
evening set	649 May 18 j 19:59	9° Π 45'47			654 Oct 24 j 08:45	15° \mathcal{M}	
				evening set	654 Oct 26 j 00:42	15° \mathcal{M} 22'14	
conjunction	649 Jun 01 j 14:27	12° Π 53'39	0°-16'-32	max. Earth dist.	654 Nov 05 j 15:45	17° \mathcal{M} 45'05	6.31892 AU
minimum elong	649 Jun 01 j 14:28	12° Π 53'40	0°16'32				
max. Earth dist.	649 Jun 03 j 12:22	13° Π 19'48	6.16891 AU	conjunction	654 Nov 07 j 16:12	18° \mathcal{M} 12'19	0°43'30
morning rise	649 Jun 15 j 09:11	16° Π 01'23		minimum elong	654 Nov 07 j 16:14	18° \mathcal{M} 12'20	0°43'31
	649 Aug 24 j 18:42	0° \mathfrak{S}		morning rise	654 Nov 20 j 06:12	21° \mathcal{M} 01'57	
retrograde	649 Oct 19 j 09:34	4° \mathfrak{S} 36'49			655 Jan 01 j 17:27	0° \mathcal{Z}	
asc. node	649 Nov 14 j 01:37	3° \mathfrak{S} 32'14		retrograde	655 Mar 23 j 17:11	8° \mathcal{Z} 49'59	
	649 Dec 14 j 21:31	30° $\mathcal{R}\Pi$		opposition	655 May 23 j 16:15	3° \mathcal{Z} 57'26	0°39'45
min. Earth dist.	649 Dec 17 j 02:20	29° Π 42'12	4.23741 AU	min. Earth dist.	655 May 25 j 01:36	3° \mathcal{Z} 46'48	4.25465 AU
opposition	649 Dec 18 j 01:18	29° Π 34'27	0°04'59		655 Jun 28 j 16:59	30° $\mathcal{R}\mathcal{M}$	
direct	650 Feb 15 j 20:34	24° Π 32'56		direct	655 Jul 24 j 09:39	28° \mathcal{M} 59'44	
	650 Apr 18 j 16:09	0° \mathfrak{S}			655 Aug 19 j 01:12	0° \mathcal{Z}	
evening set	650 Jun 22 j 19:44	12° \mathfrak{S} 52'07		evening set	655 Nov 26 j 18:20	17° \mathcal{Z} 22'57	
				max. Earth dist.	655 Dec 07 j 18:51	19° \mathcal{Z} 55'48	6.18519 AU
conjunction	650 Jul 06 j 10:41	15° \mathfrak{S} 52'42	0°22'43	conjunction	655 Dec 09 j 10:25	20° \mathcal{Z} 18'44	0°07'54
minimum elong	650 Jul 06 j 10:39	15° \mathfrak{S} 52'41	0°22'43	minimum elong	655 Dec 09 j 10:25	20° \mathcal{Z} 18'44	0°07'54
max. Earth dist.	650 Jul 07 j 08:45	16° \mathfrak{S} 04'55	6.30334 AU	behind sun begin	655 Dec 09 j 03:14	20° \mathcal{Z} 14'36	
morning rise	650 Jul 20 j 00:05	18° \mathfrak{S} 52'17		behind sun end	655 Dec 09 j 17:36	20° \mathcal{Z} 22'53	
	650 Sep 13 j 07:50	0° Ω		morning rise	655 Dec 22 j 02:49	23° \mathcal{Z} 14'55	
retrograde	650 Nov 19 j 19:45	6° Ω 27'52			656 Jan 21 j 09:13	0° \mathcal{Z}	
opposition	651 Jan 18 j 16:36	1° Ω 29'15	0°57'42		656 Feb 25 j 06:22	6° \mathcal{Z} 37'50	
min. Earth dist.	651 Jan 18 j 10:56	1° Ω 31'08	4.35981 AU	desc. node	656 Apr 27 j 00:31	12° \mathcal{Z} 06'03	
	651 Jan 30 j 02:06	30° $\mathcal{R}\mathfrak{S}$		retrograde	656 Jun 26 j 19:03	7° \mathcal{Z} 11'11	0°-18'-31
direct	651 Mar 20 j 21:01	26° \mathfrak{S} 26'22		opposition			

min. Earth dist.	656 Jun 27 j 15:33	7°♄04'33	4.11513 AU	min. Earth dist.	661 Dec 21 j 19:43	4°♄28'44	4.25571 AU
direct	656 Aug 26 j 04:54	2°♄15'58			662 Jan 31 j 08:53	30°♄♂	
evening set	656 Dec 29 j 05:44	21°♄15'49		direct	662 Feb 20 j 17:11	29°♄♂19'57	
max. Earth dist.	657 Jan 10 j 10:54	24°♄10'03	6.05264 AU		662 Mar 13 j 06:00	0°♄	
				evening set	662 Jun 27 j 15:59	17°♄34'21	
conjunction	657 Jan 11 j 01:40	24°♄18'51	0°-31'-56				
minimum elong	657 Jan 11 j 01:38	24°♄18'49	0°31'57	conjunction	662 Jul 11 j 06:11	20°♄33'51	0°27'53
morning rise	657 Jan 23 j 23:11	27°♄22'59		minimum elong	662 Jul 11 j 06:10	20°♄33'50	0°27'54
	657 Feb 04 j 02:39	0°♄		max. Earth dist.	662 Jul 12 j 02:12	20°♄44'53	6.32089 AU
	657 Apr 25 j 09:27	15°♄		morning rise	662 Jul 24 j 18:25	23°♄32'12	
retrograde	657 Jun 03 j 08:48	17°♄19'35			662 Aug 24 j 08:05	0°♄	
	657 Jul 12 j 11:03	15°♄		retrograde	662 Nov 24 j 03:18	11°♄00'26	
opposition	657 Aug 02 j 17:14	12°♄21'10	-1°-13'-48	opposition	663 Jan 23 j 02:43	6°♄02'16	1°03'56
min. Earth dist.	657 Aug 02 j 16:52	12°♄21'17	4.00196 AU	min. Earth dist.	663 Jan 22 j 22:23	6°♄03'41	4.37505 AU
direct	657 Sep 30 j 16:28	7°♄27'36		direct	663 Mar 25 j 10:36	0°♄59'15	
	657 Dec 10 j 17:29	15°♄			663 Jul 12 j 16:39	15°♄	
evening set	658 Feb 02 j 19:11	26°♄58'00		evening set	663 Jul 30 j 12:09	18°♄46'33	
conjunction	658 Feb 15 j 21:16	0°♄07'30	-1°-1'-30	conjunction	663 Aug 12 j 18:33	21°♄38'59	0°56'53
minimum elong	658 Feb 15 j 21:14	0°♄07'28	1°01'30	minimum elong	663 Aug 12 j 18:31	21°♄38'58	0°56'52
	658 Feb 15 j 08:52	0°♄		max. Earth dist.	663 Aug 12 j 09:24	21°♄34'01	6.41575 AU
max. Earth dist.	658 Feb 16 j 13:01	0°♄17'01	5.96904 AU	morning rise	663 Aug 25 j 22:17	24°♄29'58	
morning rise	658 Mar 01 j 02:29	3°♄18'42			663 Sep 21 j 03:51	0°♄	
retrograde	658 Jul 11 j 11:01	23°♄55'06		retrograde	663 Dec 24 j 10:44	11°♄23'49	
opposition	658 Sep 09 j 10:04	18°♄52'43	-1°-42'-27	opposition	664 Feb 22 j 17:41	6°♄29'08	1°34'45
min. Earth dist.	658 Sep 08 j 12:03	19°♄00'07	3.95850 AU	min. Earth dist.	664 Feb 23 j 08:16	6°♄24'23	4.44045 AU
direct	658 Nov 06 j 09:50	13°♄58'42		direct	664 Apr 25 j 02:29	1°♄26'10	
	659 Feb 24 j 11:34	0°♄		evening set	664 Aug 29 j 21:30	19°♄00'40	
evening set	659 Mar 11 j 22:39	3°♄39'02		max. Earth dist.	664 Sep 10 j 11:47	21°♄31'08	6.44598 AU
conjunction	659 Mar 25 j 08:52	6°♄52'12	-1°-7'-38	conjunction	664 Sep 11 j 20:21	21°♄48'48	1°09'31
minimum elong	659 Mar 25 j 08:53	6°♄52'13	1°07'39	minimum elong	664 Sep 11 j 20:21	21°♄48'47	1°09'31
max. Earth dist.	659 Mar 27 j 05:18	7°♄18'53	5.96900 AU	morning rise	664 Sep 24 j 16:15	24°♄35'32	
morning rise	659 Apr 07 j 22:05	10°♄06'53			664 Oct 20 j 10:39	0°♄	
	659 Jul 30 j 02:05	0°♄		retrograde	665 Jan 22 j 18:35	11°♄22'50	
retrograde	659 Aug 17 j 20:00	0°♄34'31		opposition	665 Mar 24 j 10:34	6°♄30'22	1°39'51
	659 Sep 05 j 09:14	30°♄♂		min. Earth dist.	665 Mar 25 j 14:56	6°♄21'16	4.43502 AU
min. Earth dist.	659 Oct 15 j 01:27	25°♄40'47	4.00281 AU	direct	665 May 26 j 04:29	1°♄28'30	
opposition	659 Oct 16 j 10:18	25°♄29'35	-1°-30'-23	evening set	665 Sep 29 j 13:52	19°♄06'23	
direct	659 Dec 13 j 09:36	20°♄33'13		max. Earth dist.	665 Oct 10 j 09:02	21°♄28'27	6.40452 AU
	660 Mar 03 j 08:25	0°♄					
evening set	660 Apr 17 j 10:27	9°♄57'06		conjunction	665 Oct 12 j 07:19	21°♄53'56	1°03'16
				minimum elong	665 Oct 12 j 07:21	21°♄53'56	1°03'16
conjunction	660 May 01 j 03:13	13°♄09'24	0°-47'-29	morning rise	665 Oct 24 j 22:23	24°♄40'29	
minimum elong	660 May 01 j 03:16	13°♄09'26	0°47'31		665 Nov 18 j 21:32	0°♄	
max. Earth dist.	660 May 03 j 10:19	13°♄41'40	6.05282 AU	retrograde	666 Feb 23 j 05:44	11°♄49'21	
	660 May 09 j 00:17	15°♄		opposition	666 Apr 25 j 03:06	6°♄57'35	1°17'53
morning rise	660 May 14 j 21:57	16°♄22'29		min. Earth dist.	666 Apr 26 j 15:11	6°♄46'07	4.35998 AU
	660 Jul 19 j 08:04	0°♄		direct	666 Jun 26 j 15:28	1°♄57'44	
retrograde	660 Sep 21 j 01:26	5°♄57'30			666 Oct 07 j 22:32	15°♄	
min. Earth dist.	660 Nov 18 j 05:35	1°♄03'58	4.11633 AU	evening set	666 Oct 30 j 10:15	19°♄54'34	
opposition	660 Nov 19 j 14:29	0°♄52'45	0°-44'-49	max. Earth dist.	666 Nov 09 j 23:55	22°♄17'18	6.30138 AU
	660 Nov 26 j 02:19	30°♄♂					
direct	661 Jan 17 j 07:25	25°♄53'21		conjunction	666 Nov 12 j 01:31	22°♄45'18	0°39'07
	661 Mar 10 j 05:37	0°♄		minimum elong	666 Nov 12 j 01:33	22°♄45'19	0°39'07
evening set	661 May 23 j 22:41	14°♄43'36		morning rise	666 Nov 24 j 15:50	25°♄35'45	
					666 Dec 14 j 15:08	0°♄	
conjunction	661 Jun 06 j 16:57	17°♄50'38	0°-10'-49	retrograde	667 Mar 28 j 13:33	13°♄32'02	
minimum elong	661 Jun 06 j 16:58	17°♄50'38	0°10'51	opposition	667 May 28 j 12:12	8°♄39'15	0°32'06
behind sun begin	661 Jun 06 j 10:42	17°♄47'06		min. Earth dist.	667 May 29 j 20:31	8°♄28'55	4.23435 AU
behind sun end	661 Jun 06 j 23:14	17°♄54'11		direct	667 Jul 29 j 01:52	3°♄41'53	
max. Earth dist.	661 Jun 08 j 12:06	18°♄15'07	6.18628 AU	evening set	667 Dec 01 j 09:01	22°♄10'36	
morning rise	661 Jun 20 j 11:21	20°♄57'24		max. Earth dist.	667 Dec 12 j 13:29	24°♄46'25	6.16405 AU
	661 Aug 01 j 23:25	0°♄					
asc. node	661 Sep 22 j 14:45	7°♄50'00		conjunction	667 Dec 14 j 01:39	25°♄07'28	0°02'13
retrograde	661 Oct 24 j 00:21	9°♄23'51		minimum elong	667 Dec 14 j 01:38	25°♄07'27	0°02'13
opposition	661 Dec 22 j 16:13	4°♄21'49	0°13'16	behind sun begin	667 Dec 13 j 17:38	25°♄02'49	

behind sun end	667 Dec 14 j 09:38	25°♌12'06			673 Jul 14 j 14:41	0°♏	
morning rise	667 Dec 26 j 18:28	28°♌04'46		asc. node	673 Aug 02 j 07:17	3°♏52'24	
desc. node	668 Jan 04 j 09:56	0°♍04'08		retrograde	673 Oct 28 j 10:25	14°♏03'14	
	668 Jan 04 j 02:43	0°♍		min. Earth dist.	673 Dec 26 j 08:57	9°♏08'05	4.27729 AU
retrograde	668 May 02 j 05:29	17°♍06'05		opposition	673 Dec 27 j 03:52	9°♏01'44	0°21'11
opposition	668 Jul 01 j 22:11	12°♍10'54	0°-27'-6	direct	674 Feb 25 j 09:14	3°♏59'37	
min. Earth dist.	668 Jul 02 j 16:31	12°♍04'58	4.09492 AU	evening set	674 Jul 02 j 08:35	22°♏08'33	
direct	668 Aug 31 j 02:43	7°♍16'04					
evening set	669 Jan 03 j 04:09	26°♍21'44		conjunction	674 Jul 15 j 21:37	25°♏06'49	0°32'43
				minimum elong	674 Jul 15 j 21:35	25°♏06'48	0°32'43
conjunction	669 Jan 16 j 00:41	29°♍25'50	0°-37'-7	max. Earth dist.	674 Jul 16 j 11:44	25°♏14'35	6.33929 AU
minimum elong	669 Jan 16 j 00:38	29°♍25'48	0°37'09	morning rise	674 Jul 29 j 08:49	28°♏03'57	
max. Earth dist.	669 Jan 15 j 12:41	29°♍18'39	6.03519 AU		674 Aug 07 j 07:07	0°♐	
	669 Jan 18 j 09:48	0°♐			674 Nov 12 j 05:21	15°♐	
morning rise	669 Jan 28 j 23:20	2°♐31'13		retrograde	674 Nov 28 j 09:50	15°♐25'14	
	669 Mar 27 j 07:12	15°♐			674 Dec 14 j 11:44	15°♐♐	
retrograde	669 Jun 08 j 17:51	22°♐36'25		opposition	675 Jan 27 j 09:45	10°♐27'34	1°09'35
opposition	669 Aug 08 j 01:35	17°♐37'28	-1°-20'-2	min. Earth dist.	675 Jan 27 j 09:15	10°♐27'44	4.38909 AU
min. Earth dist.	669 Aug 07 j 21:12	17°♐38'55	3.98935 AU	direct	675 Mar 29 j 22:58	5°♐24'24	
	669 Aug 29 j 01:52	15°♐♐			675 Jun 25 j 02:51	15°♐	
direct	669 Oct 05 j 19:43	12°♐44'01		evening set	675 Aug 03 j 22:36	23°♐08'44	
	669 Nov 12 j 01:44	15°♐					
	670 Jan 29 j 09:18	0°♑		conjunction	675 Aug 17 j 04:03	26°♐00'23	0°59'42
evening set	670 Feb 08 j 00:33	2°♑18'01		minimum elong	675 Aug 17 j 04:01	26°♐00'22	0°59'42
				max. Earth dist.	675 Aug 16 j 15:38	25°♐53'39	6.42425 AU
conjunction	670 Feb 21 j 03:53	5°♑28'21	-1°-4'-1	morning rise	675 Aug 30 j 06:27	28°♐50'32	
minimum elong	670 Feb 21 j 03:51	5°♑28'20	1°04'01		675 Sep 04 j 15:57	0°♑	
max. Earth dist.	670 Feb 22 j 01:52	5°♑41'38	5.96269 AU	retrograde	675 Dec 28 j 14:12	15°♑41'50	
morning rise	670 Mar 06 j 10:07	8°♑40'20		opposition	676 Feb 26 j 23:25	10°♑47'31	1°37'04
retrograde	670 Jul 16 j 22:32	29°♑19'01		min. Earth dist.	676 Feb 27 j 15:48	10°♑42'12	4.44319 AU
opposition	670 Sep 14 j 18:54	24°♑16'11	-1°-43'-16	direct	676 Apr 29 j 09:27	5°♑44'36	
min. Earth dist.	670 Sep 13 j 19:06	24°♑24'13	3.95948 AU	evening set	676 Sep 03 j 04:47	23°♑19'04	
direct	670 Nov 11 j 18:11	19°♑22'00		max. Earth dist.	676 Sep 14 j 14:49	25°♑47'28	6.44261 AU
	671 Feb 05 j 16:30	0°♒					
evening set	671 Mar 17 j 07:28	9°♒01'22		conjunction	676 Sep 16 j 02:40	26°♑06'57	1°09'46
				minimum elong	676 Sep 16 j 02:39	26°♑06'57	1°09'46
conjunction	671 Mar 30 j 18:42	12°♒14'38	-1°-6'-14	morning rise	676 Sep 28 j 21:46	28°♑53'30	
minimum elong	671 Mar 30 j 18:44	12°♒14'39	1°06'14		676 Oct 04 j 01:23	0°♓	
max. Earth dist.	671 Apr 01 j 18:29	12°♒43'13	5.97716 AU	retrograde	677 Jan 27 j 03:09	15°♓42'49	
morning rise	671 Apr 13 j 09:00	15°♒29'22		opposition	677 Mar 28 j 19:09	10°♓50'34	1°38'23
	671 Jun 20 j 23:31	0°♓		min. Earth dist.	677 Mar 30 j 02:11	10°♓40'39	4.42580 AU
retrograde	671 Aug 22 j 23:05	5°♓51'02		direct	677 May 30 j 14:11	5°♓48'54	
min. Earth dist.	671 Oct 20 j 02:50	0°♓57'47	4.01742 AU	evening set	677 Oct 03 j 21:06	23°♓29'31	
opposition	671 Oct 21 j 13:33	0°♓45'57	-1°-25'-30	max. Earth dist.	677 Oct 14 j 13:27	25°♓50'34	6.39002 AU
	671 Oct 27 j 05:00	30°♒♒					
direct	671 Dec 18 j 13:18	25°♒49'11		conjunction	677 Oct 16 j 14:07	26°♓17'26	1°00'52
	672 Feb 08 j 02:13	0°♓		minimum elong	677 Oct 16 j 14:08	26°♓17'27	1°00'53
evening set	672 Apr 22 j 17:05	15°♓08'06		morning rise	677 Oct 29 j 04:58	29°♓04'29	
	672 Apr 22 j 03:06	15°♓			677 Nov 02 j 10:19	0°♔	
conjunction	672 May 06 j 10:15	18°♓19'43	0°-42'-57	retrograde	678 Jan 29 j 08:08	15°♔	
minimum elong	672 May 06 j 10:18	18°♓19'45	0°42'57		678 Feb 27 j 19:19	16°♔19'40	
max. Earth dist.	672 May 08 j 15:59	18°♓51'02	6.07238 AU	opposition	678 Mar 29 j 10:38	15°♔♔	
morning rise	672 May 20 j 05:17	21°♓31'59		min. Earth dist.	678 Apr 29 j 17:22	11°♔27'49	1°12'43
	672 Jun 27 j 14:28	0°♕		direct	678 May 01 j 05:03	11°♔16'27	4.34118 AU
retrograde	672 Sep 25 j 19:48	10°♕56'24			678 Jul 01 j 02:27	6°♔28'15	
min. Earth dist.	672 Nov 23 j 02:25	6°♕02'29	4.13847 AU	evening set	678 Sep 19 j 15:12	15°♔	
opposition	672 Nov 24 j 09:36	5°♕51'51	0°-36'-49	max. Earth dist.	678 Nov 03 j 21:04	24°♔30'12	
direct	673 Jan 22 j 07:52	0°♕51'59			678 Nov 14 j 13:10	26°♔54'58	6.27992 AU
evening set	673 May 28 j 22:38	19°♕35'47		conjunction	678 Nov 16 j 12:30	27°♔21'49	0°34'28
				minimum elong	678 Nov 16 j 12:32	27°♔21'51	0°34'28
conjunction	673 Jun 11 j 16:44	22°♕41'41	0°-5'-12		678 Nov 28 j 03:27	0°♕	
minimum elong	673 Jun 11 j 16:44	22°♕41'42	0°05'13	morning rise	678 Nov 29 j 02:53	0°♕13'13	
behind sun begin	673 Jun 11 j 08:40	22°♕37'10		retrograde	679 Apr 02 j 12:50	18°♕18'57	
behind sun end	673 Jun 12 j 00:49	22°♕46'14		opposition	679 Jun 02 j 10:15	13°♕25'58	0°24'07
max. Earth dist.	673 Jun 13 j 10:22	23°♕05'11	6.20921 AU	min. Earth dist.	679 Jun 03 j 17:33	13°♕15'58	4.21171 AU
morning rise	673 Jun 25 j 10:22	25°♕47'08		direct	679 Aug 02 j 19:48	8°♕29'01	

desc. node	679 Nov 13 j 05:10	21°♌53'02		minimum elong	685 Jun 16 j 14:29	27°♊27'48	0°00'28
evening set	679 Dec 06 j 02:11	27°♌03'50		behind sun begin	685 Jun 16 j 06:09	27°♊23'09	
max. Earth dist.	679 Dec 17 j 08:56	29°♌41'47	6.14222 AU	behind sun end	685 Jun 16 j 22:49	27°♊32'28	
				max. Earth dist.	685 Jun 18 j 03:12	27°♊48'25	6.22986 AU
conjunction	679 Dec 18 j 19:07	0°♌01'47	0°-3'-40		685 Jun 27 j 22:02	0°♌	
minimum elong	679 Dec 18 j 19:07	0°♌01'47	0°03'41	morning rise	685 Jun 30 j 07:37	0°♌32'06	
behind sun begin	679 Dec 18 j 11:11	29°♌57'09		retrograde	685 Nov 01 j 20:17	18°♌39'14	
behind sun end	679 Dec 19 j 03:04	0°♌06'24		opposition	685 Dec 31 j 14:30	13°♌38'16	0°28'53
	679 Dec 18 j 16:07	0°♌		min. Earth dist.	685 Dec 30 j 22:31	13°♌43'38	4.29576 AU
morning rise	679 Dec 31 j 12:50	3°♌00'22		direct	686 Mar 02 j 01:00	8°♌35'55	
retrograde	680 May 07 j 11:45	22°♌11'58		evening set	686 Jul 07 j 00:14	26°♌40'44	
opposition	680 Jul 07 j 03:48	17°♌16'15	0°-35'-38				
min. Earth dist.	680 Jul 07 j 18:03	17°♌11'37	4.07590 AU	conjunction	686 Jul 20 j 12:28	29°♌38'01	0°37'20
direct	680 Sep 05 j 02:27	12°♌21'42		minimum elong	686 Jul 20 j 12:26	29°♌38'00	0°37'19
	681 Jan 01 j 16:34	0°♌		max. Earth dist.	686 Jul 20 j 23:41	29°♌44'10	6.35434 AU
evening set	681 Jan 08 j 04:36	1°♌32'25			686 Jul 22 j 04:34	0°♌	
				morning rise	686 Aug 02 j 22:21	2°♌34'02	
conjunction	681 Jan 21 j 02:04	4°♌37'32	0°-42'-5		686 Oct 06 j 01:49	15°♌	
minimum elong	681 Jan 21 j 02:01	4°♌37'30	0°42'06	retrograde	686 Dec 02 j 15:40	19°♌49'46	
max. Earth dist.	681 Jan 20 j 20:30	4°♌34'12	6.02082 AU		687 Jan 30 j 18:43	15°♌	
morning rise	681 Feb 03 j 01:32	7°♌43'56		opposition	687 Jan 31 j 16:55	14°♌52'42	1°14'52
	681 Mar 06 j 15:06	15°♌		min. Earth dist.	687 Jan 31 j 18:33	14°♌52'10	4.39984 AU
retrograde	681 Jun 14 j 05:46	27°♌56'03		direct	687 Apr 03 j 09:02	9°♌49'34	
opposition	681 Aug 13 j 11:15	22°♌56'30	-1°-25'-38		687 Jun 03 j 23:39	15°♌	
min. Earth dist.	681 Aug 13 j 04:15	22°♌58'49	3.98128 AU	evening set	687 Aug 08 j 09:13	27°♌31'58	
direct	681 Oct 11 j 02:37	18°♌03'06			687 Aug 19 j 19:07	0°♌	
	682 Jan 11 j 07:32	0°♌		conjunction	687 Aug 21 j 13:24	0°♌22'56	1°02'12
evening set	682 Feb 13 j 06:57	7°♌38'41		minimum elong	687 Aug 21 j 13:23	0°♌22'55	1°02'12
				max. Earth dist.	687 Aug 20 j 19:50	0°♌13'24	6.42977 AU
conjunction	682 Feb 26 j 11:15	10°♌49'32	-1°-6'00	morning rise	687 Sep 03 j 14:51	3°♌12'28	
minimum elong	682 Feb 26 j 11:14	10°♌49'31	1°06'01	retrograde	688 Jan 01 j 21:34	20°♌02'24	
max. Earth dist.	682 Feb 27 j 13:28	11°♌05'22	5.96135 AU	opposition	688 Mar 02 j 06:42	15°♌08'30	1°38'52
morning rise	682 Mar 11 j 18:43	14°♌02'05		min. Earth dist.	688 Mar 03 j 02:22	15°♌02'08	4.44337 AU
	682 May 27 j 10:17	0°♌		direct	688 May 03 j 19:31	10°♌05'42	
retrograde	682 Jul 22 j 06:26	4°♌40'20		evening set	688 Sep 07 j 12:45	27°♌40'44	
	682 Sep 17 j 06:20	30°♌			688 Sep 18 j 05:34	0°♌	
min. Earth dist.	682 Sep 18 j 23:31	29°♌46'07	3.96528 AU	max. Earth dist.	688 Sep 18 j 20:16	0°♌08'00	6.43735 AU
opposition	682 Sep 20 j 02:22	29°♌37'03	-1°-43'-11				
direct	682 Nov 16 j 23:50	24°♌42'35		conjunction	688 Sep 20 j 09:58	0°♌28'31	1°09'39
	683 Jan 14 j 01:05	0°♌		minimum elong	688 Sep 20 j 09:58	0°♌28'31	1°09'38
evening set	683 Mar 22 j 15:19	14°♌19'25		morning rise	688 Oct 03 j 04:12	3°♌14'59	
				retrograde	689 Jan 31 j 11:33	20°♌07'01	
conjunction	683 Apr 05 j 03:29	17°♌32'34	-1°-4'-19	opposition	689 Apr 02 j 05:19	15°♌14'57	1°36'20
minimum elong	683 Apr 05 j 03:31	17°♌32'35	1°04'20	min. Earth dist.	689 Apr 03 j 12:38	15°♌04'57	4.41565 AU
max. Earth dist.	683 Apr 07 j 04:35	18°♌01'52	5.98919 AU	direct	689 Jun 03 j 22:33	10°♌13'35	
morning rise	683 Apr 18 j 18:40	20°♌47'07		evening set	689 Oct 08 j 05:41	27°♌57'06	
	683 May 29 j 17:29	0°♌			689 Oct 17 j 12:20	0°♌	
retrograde	683 Aug 27 j 23:51	11°♌01'31		max. Earth dist.	689 Oct 18 j 21:27	0°♌18'21	6.37582 AU
min. Earth dist.	683 Oct 25 j 04:12	6°♌08'04	4.03412 AU				
opposition	683 Oct 26 j 14:37	5°♌56'19	-1°-20'00	conjunction	689 Oct 20 j 22:15	0°♌45'25	0°58'05
direct	683 Dec 23 j 17:25	0°♌59'07		minimum elong	689 Oct 20 j 22:17	0°♌45'26	0°58'05
	684 Apr 04 j 20:37	15°♌		morning rise	689 Nov 02 j 12:51	3°♌32'56	
evening set	684 Apr 27 j 21:20	20°♌12'42			689 Dec 29 j 17:34	15°♌	
				retrograde	690 Mar 04 j 12:20	20°♌54'26	
conjunction	684 May 11 j 15:06	23°♌23'38	0°-38'-9	opposition	690 May 04 j 09:33	16°♌02'36	1°07'00
minimum elong	684 May 11 j 15:09	23°♌23'40	0°38'09	min. Earth dist.	690 May 05 j 21:48	15°♌51'04	4.32379 AU
max. Earth dist.	684 May 13 j 21:18	23°♌55'04	6.09239 AU		690 May 12 j 15:28	15°♌	
morning rise	684 May 25 j 10:09	26°♌35'01		direct	690 Jul 05 j 16:45	11°♌03'27	
	684 Jun 09 j 11:34	0°♌			690 Aug 27 j 07:31	15°♌	
retrograde	684 Sep 30 j 12:57	15°♌49'11		evening set	690 Nov 08 j 08:51	29°♌09'47	
min. Earth dist.	684 Nov 27 j 20:47	10°♌55'13	4.15967 AU		690 Nov 12 j 01:32	0°♌	
opposition	684 Nov 29 j 02:44	10°♌45'03	0°-28'-42	max. Earth dist.	690 Nov 19 j 01:34	1°♌35'35	6.26095 AU
direct	685 Jan 27 j 04:49	5°♌44'53					
evening set	685 Jun 02 j 20:59	24°♌23'00		conjunction	690 Nov 21 j 00:18	2°♌02'13	0°29'33
asc. node	685 Jun 12 j 01:11	26°♌26'24		minimum elong	690 Nov 21 j 00:20	2°♌02'14	0°29'33
				morning rise	690 Dec 03 j 15:04	4°♌54'32	
conjunction	685 Jun 16 j 14:29	27°♌27'48	0°00'28				

retrograde	691 Apr 07 j 11:46	23°♂09'00		retrograde	696 Oct 05 j 01:42	20°♂33'42	
opposition	691 Jun 07 j 09:24	18°♂15'54	0°15'54	opposition	696 Dec 03 j 16:23	15°♂29'53	0°-20'-41
min. Earth dist.	691 Jun 08 j 13:33	18°♂06'40	4.19262 AU	min. Earth dist.	696 Dec 02 j 12:04	15°♂39'30	4.17786 AU
direct	691 Aug 07 j 13:17	13°♂19'10		direct	697 Jan 31 j 22:34	10°♂29'19	
desc. node	691 Sep 22 j 09:52	16°♂28'15		asc. node	697 Apr 23 j 00:05	19°♂27'14	
	691 Dec 02 j 06:18	0°♂		evening set	697 Jun 07 j 16:14	29°♂02'59	
evening set	691 Dec 10 j 19:32	1°♂58'40			697 Jun 11 j 22:33	0°♂	
max. Earth dist.	691 Dec 22 j 07:47	4°♂40'24	6.12490 AU				
conjunction	691 Dec 23 j 12:58	4°♂57'33	0°-9'-24	conjunction	697 Jun 21 j 09:27	2°♂06'54	0°05'57
minimum elong	691 Dec 23 j 12:57	4°♂57'32	0°09'25	minimum elong	697 Jun 21 j 09:26	2°♂06'54	0°05'58
behind sun begin	691 Dec 23 j 06:13	4°♂53'36		behind sun begin	697 Jun 21 j 01:31	2°♂02'29	
behind sun end	691 Dec 23 j 19:41	5°♂01'29		behind sun end	697 Jun 21 j 17:21	2°♂11'19	
morning rise	692 Jan 05 j 07:09	7°♂57'06		max. Earth dist.	697 Jun 22 j 19:21	2°♂25'54	6.24690 AU
retrograde	692 May 12 j 18:23	27°♂17'15		morning rise	697 Jul 05 j 01:43	5°♂10'07	
opposition	692 Jul 12 j 08:48	22°♂21'02	0°-43'-49	retrograde	697 Nov 06 j 05:26	23°♂09'47	
min. Earth dist.	692 Jul 12 j 20:44	22°♂17'09	4.06189 AU	opposition	698 Jan 04 j 23:17	18°♂09'24	0°36'11
direct	692 Sep 10 j 03:44	17°♂26'46		min. Earth dist.	698 Jan 04 j 09:53	18°♂13'53	4.31033 AU
	692 Dec 15 j 06:30	0°♂		direct	698 Mar 06 j 13:53	13°♂06'54	
evening set	693 Jan 13 j 04:09	6°♂40'41			698 Jul 06 j 07:11	0°♂	
				evening set	698 Jul 11 j 14:14	1°♂08'46	
conjunction	693 Jan 26 j 02:17	9°♂46'31	0°-46'-38	conjunction	698 Jul 25 j 01:22	4°♂05'11	0°41'37
minimum elong	693 Jan 26 j 02:14	9°♂46'29	0°46'39	minimum elong	698 Jul 25 j 01:20	4°♂05'09	0°41'37
max. Earth dist.	693 Jan 26 j 00:39	9°♂45'32	6.01136 AU	max. Earth dist.	698 Jul 25 j 07:32	4°♂08'33	6.36530 AU
morning rise	693 Feb 08 j 02:47	12°♂53'46		morning rise	698 Aug 07 j 10:18	7°♂00'19	
	693 Feb 16 j 23:50	15°♂			698 Sep 15 j 02:29	15°♂	
	693 May 04 j 20:11	0°♂		retrograde	698 Dec 06 j 21:41	24°♂11'56	
retrograde	693 Jun 19 j 12:38	3°♂10'28		opposition	699 Feb 04 j 23:33	19°♂15'20	1°19'37
	693 Aug 04 j 15:44	30°♂		min. Earth dist.	699 Feb 05 j 03:56	19°♂13'54	4.40690 AU
opposition	693 Aug 18 j 17:58	28°♂10'21	-1°-30'-21		699 Mar 15 j 22:36	15°♂	
min. Earth dist.	693 Aug 18 j 06:56	28°♂14'00	3.97770 AU	direct	699 Apr 07 j 18:46	14°♂12'10	
direct	693 Oct 16 j 05:31	23°♂16'54			699 Apr 30 j 21:03	15°♂	
	693 Dec 21 j 14:08	0°♂			699 Aug 03 j 22:26	0°♂	
evening set	694 Feb 18 j 10:37	12°♂52'35		evening set	699 Aug 12 j 19:13	1°♂53'37	
conjunction	694 Mar 03 j 15:53	16°♂03'45	-1°-7'-22	conjunction	699 Aug 25 j 22:31	4°♂44'05	1°04'18
minimum elong	694 Mar 03 j 15:52	16°♂03'44	1°07'23	minimum elong	699 Aug 25 j 22:30	4°♂44'04	1°04'18
max. Earth dist.	694 Mar 04 j 21:38	16°♂21'42	5.96370 AU	max. Earth dist.	699 Aug 25 j 03:16	4°♂33'38	6.43247 AU
morning rise	694 Mar 17 j 00:22	19°♂16'37		morning rise	699 Sep 07 j 22:42	7°♂33'03	
	694 May 03 j 16:57	0°♂		retrograde	700 Jan 06 j 03:13	24°♂22'20	
retrograde	694 Jul 27 j 10:20	9°♂53'01		opposition	700 Mar 06 j 13:56	19°♂28'48	1°40'06
min. Earth dist.	694 Sep 24 j 01:57	4°♂58'45	3.97330 AU	min. Earth dist.	700 Mar 07 j 10:43	19°♂22'06	4.44185 AU
opposition	694 Sep 25 j 06:01	4°♂49'15	-1°-42'-13	direct	700 May 08 j 03:17	14°♂26'12	
	694 Nov 14 j 21:11	30°♂			700 Sep 02 j 09:13	0°♂	
direct	694 Nov 22 j 03:59	29°♂54'26		evening set	700 Sep 11 j 20:50	2°♂02'02	
	694 Nov 29 j 10:47	0°♂		max. Earth dist.	700 Sep 23 j 00:33	4°♂27'34	6.43160 AU
evening set	695 Mar 27 j 19:15	19°♂28'02					
conjunction	695 Apr 10 j 08:28	22°♂41'01	-1°-1'-56	conjunction	700 Sep 24 j 17:06	4°♂49'42	1°09'06
minimum elong	695 Apr 10 j 08:30	22°♂41'02	1°01'57	minimum elong	700 Sep 24 j 17:06	4°♂49'42	1°09'06
max. Earth dist.	695 Apr 12 j 12:18	23°♂11'50	6.00206 AU	morning rise	700 Oct 07 j 10:47	7°♂36'08	
morning rise	695 Apr 24 j 00:17	25°♂55'16		retrograde	701 Feb 04 j 22:54	24°♂30'56	
	695 May 11 j 14:18	0°♂		opposition	701 Apr 06 j 16:09	19°♂38'59	1°33'42
	695 Aug 07 j 15:05	15°♂		min. Earth dist.	701 Apr 08 j 01:10	19°♂28'27	4.40601 AU
retrograde	695 Sep 01 j 21:38	16°♂02'04		direct	701 Jun 08 j 09:40	14°♂37'51	
	695 Sep 26 j 21:33	15°♂			701 Oct 01 j 14:34	0°♂	
min. Earth dist.	695 Oct 30 j 01:25	11°♂08'30	4.05039 AU	evening set	701 Oct 12 j 13:48	2°♂23'40	
opposition	695 Oct 31 j 11:28	10°♂56'53	-1°-14'-6	max. Earth dist.	701 Oct 23 j 05:25	4°♂45'17	6.36295 AU
direct	695 Dec 28 j 16:40	5°♂59'16		conjunction	701 Oct 25 j 06:07	5°♂12'22	0°54'57
	696 Mar 17 j 04:10	15°♂		minimum elong	701 Oct 25 j 06:10	5°♂12'23	0°54'56
evening set	696 May 02 j 22:09	25°♂07'58		morning rise	701 Nov 06 j 20:27	8°♂00'19	
					701 Dec 09 j 17:02	15°♂	
conjunction	696 May 16 j 16:03	28°♂18'11	0°-33'-14	retrograde	702 Mar 09 j 02:41	25°♂27'37	
minimum elong	696 May 16 j 16:06	28°♂18'13	0°33'16	opposition	702 May 09 j 01:20	20°♂35'38	1°00'52
max. Earth dist.	696 May 18 j 19:10	28°♂47'41	6.11051 AU	min. Earth dist.	702 May 10 j 12:04	20°♂24'34	4.30832 AU
	696 May 24 j 00:38	0°♂		direct	702 Jul 10 j 04:21	15°♂36'50	
morning rise	696 May 30 j 11:20	1°♂28'48			702 Oct 26 j 21:09	0°♂	

evening set	702 Nov 12 j 19:59	3°♏46'50		evening set	708 May 08 j 01:01	0°♐08'48	
max. Earth dist.	702 Nov 23 j 14:58	6°♏14'29	6.24403 AU				
conjunction	702 Nov 25 j 11:27	6°♏39'57	0°24'28	conjunction	708 May 21 j 19:22	3°♐18'29	0°-27'-59
minimum elong	702 Nov 25 j 11:29	6°♏39'58	0°24'29	minimum elong	708 May 21 j 19:24	3°♐18'30	0°28'01
morning rise	702 Dec 08 j 02:27	9°♏33'05		max. Earth dist.	708 May 23 j 21:36	3°♐47'23	6.12659 AU
retrograde	703 Apr 12 j 11:26	27°♏55'38		morning rise	708 Jun 04 j 14:33	6°♐28'20	
opposition	703 Jun 12 j 07:22	23°♏02'01	0°07'36	retrograde	708 Oct 09 j 19:12	25°♐24'45	
min. Earth dist.	703 Jun 13 j 10:44	22°♏53'13	4.17505 AU	min. Earth dist.	708 Dec 07 j 06:23	20°♐30'15	4.19491 AU
desc. node	703 Aug 02 j 03:51	18°♏15'40		opposition	708 Dec 08 j 08:34	20°♐21'22	0°-12'-22
direct	703 Aug 12 j 08:05	18°♏05'48		direct	709 Feb 05 j 19:07	15°♐20'31	
	703 Nov 15 j 05:05	0°♏		asc. node	709 Mar 02 j 04:39	16°♐17'43	
evening set	703 Dec 15 j 11:43	6°♏49'45			709 May 26 j 01:10	0°♏	
max. Earth dist.	703 Dec 27 j 02:59	9°♏33'50	6.10815 AU	evening set	709 Jun 12 j 14:16	3°♏50'05	
conjunction	703 Dec 28 j 05:38	9°♏49'32	0°-15'-2	conjunction	709 Jun 26 j 06:53	6°♏53'03	0°11'29
minimum elong	703 Dec 28 j 05:37	9°♏49'31	0°15'04	minimum elong	709 Jun 26 j 06:52	6°♏53'02	0°11'29
behind sun begin	703 Dec 28 j 02:28	9°♏47'41		behind sun begin	709 Jun 26 j 00:59	6°♏49'46	
behind sun end	703 Dec 28 j 08:46	9°♏51'22		behind sun end	709 Jun 26 j 12:45	6°♏56'18	
morning rise	704 Jan 10 j 00:36	12°♏50'08		max. Earth dist.	709 Jun 27 j 13:40	7°♏10'12	6.26377 AU
	704 Apr 08 j 23:05	0°♏		morning rise	709 Jul 09 j 22:27	9°♏55'13	
retrograde	704 May 17 j 21:37	2°♏18'45		retrograde	709 Nov 10 j 14:49	27°♏47'20	
	704 Jun 26 j 03:51	30°♏		opposition	710 Jan 09 j 10:28	22°♏47'29	0°43'29
opposition	704 Jul 17 j 12:04	27°♏22'03	0°-51'-39	min. Earth dist.	710 Jan 08 j 22:32	22°♏51'28	4.32604 AU
min. Earth dist.	704 Jul 17 j 20:20	27°♏19'21	4.04754 AU	direct	710 Mar 11 j 04:30	17°♏44'51	
direct	704 Sep 15 j 01:17	22°♏28'02			710 Jun 19 j 03:19	0°♏	
	704 Nov 25 j 15:15	0°♏		evening set	710 Jul 16 j 06:28	5°♏43'12	
evening set	705 Jan 18 j 02:39	11°♏45'46		conjunction	710 Jul 29 j 16:35	8°♏38'38	0°45'47
conjunction	705 Jan 31 j 01:36	14°♏52'26	0°-50'-50	minimum elong	710 Jul 29 j 16:33	8°♏38'37	0°45'47
minimum elong	705 Jan 31 j 01:34	14°♏52'25	0°50'50	max. Earth dist.	710 Jul 29 j 20:16	8°♏40'38	6.37909 AU
max. Earth dist.	705 Jan 31 j 04:07	14°♏53'57	6.00059 AU	morning rise	710 Aug 12 j 00:11	11°♏32'41	
	705 Jan 31 j 14:10	15°♏			710 Aug 28 j 04:23	15°♏	
morning rise	705 Feb 13 j 03:06	18°♏00'37		retrograde	710 Dec 11 j 05:16	28°♏39'06	
	705 Apr 08 j 10:27	0°♏		opposition	711 Feb 09 j 08:04	23°♏43'01	1°24'01
retrograde	705 Jun 24 j 20:16	8°♏22'50		min. Earth dist.	711 Feb 09 j 14:29	23°♏40'55	4.41812 AU
opposition	705 Aug 23 j 23:40	3°♏22'08	-1°-34'-25	direct	711 Apr 12 j 06:56	18°♏39'56	
min. Earth dist.	705 Aug 23 j 10:28	3°♏26'32	3.97169 AU		711 Jul 17 j 20:21	0°♏	
	705 Sep 20 j 23:31	30°♏		evening set	711 Aug 17 j 05:59	6°♏18'37	
direct	705 Oct 21 j 09:00	28°♏28'36		max. Earth dist.	711 Aug 29 j 09:03	8°♏55'50	6.44027 AU
	705 Nov 20 j 12:48	0°♏		conjunction	711 Aug 30 j 08:03	9°♏08'18	1°06'06
evening set	706 Feb 23 j 14:20	18°♏05'48		minimum elong	711 Aug 30 j 08:01	9°♏08'17	1°06'05
conjunction	706 Mar 08 j 20:51	21°♏17'32	-1°-8'-15	morning rise	711 Sep 12 j 07:15	11°♏56'32	
minimum elong	706 Mar 08 j 20:50	21°♏17'31	1°08'15	retrograde	712 Jan 10 j 10:05	28°♏43'34	
max. Earth dist.	706 Mar 10 j 07:11	21°♏38'14	5.96300 AU	opposition	712 Mar 10 j 21:51	23°♏50'16	1°40'46
morning rise	706 Mar 22 j 06:24	24°♏30'55		min. Earth dist.	712 Mar 11 j 20:30	23°♏42'58	4.44597 AU
	706 Apr 14 j 17:01	0°♏		direct	712 May 12 j 13:21	18°♏47'46	
retrograde	706 Aug 01 j 15:40	15°♏06'32			712 Aug 16 j 14:46	0°♏	
min. Earth dist.	706 Sep 29 j 04:14	10°♏12'24	3.97814 AU	evening set	712 Sep 16 j 03:43	6°♏22'11	
opposition	706 Sep 30 j 09:31	10°♏02'29	-1°-40'-30	max. Earth dist.	712 Sep 27 j 06:30	8°♏47'16	6.43174 AU
direct	706 Nov 27 j 06:31	5°♏07'22		conjunction	712 Sep 28 j 23:17	9°♏09'31	1°08'13
evening set	707 Apr 02 j 00:46	24°♏39'24		minimum elong	712 Sep 28 j 23:18	9°♏09'32	1°08'13
conjunction	707 Apr 15 j 14:48	27°♏52'22	0°-59'-4	morning rise	712 Oct 11 j 16:01	11°♏55'38	
minimum elong	707 Apr 15 j 14:51	27°♏52'23	0°59'04	retrograde	713 Feb 09 j 05:29	28°♏51'18	
max. Earth dist.	707 Apr 17 j 18:25	28°♏22'56	6.01175 AU	opposition	713 Apr 11 j 01:15	23°♏59'25	1°30'35
	707 Apr 24 j 14:35	0°♏		min. Earth dist.	713 Apr 12 j 10:29	23°♏48'49	4.40207 AU
morning rise	707 Apr 29 j 07:39	1°♏06'33		direct	713 Jun 12 j 17:43	18°♏58'34	
	707 Jul 04 j 05:42	15°♏			713 Sep 15 j 00:46	0°♏	
retrograde	707 Sep 06 j 19:28	21°♏06'57		evening set	713 Oct 16 j 19:33	6°♏44'43	
min. Earth dist.	707 Nov 03 j 23:14	16°♏13'31	4.06375 AU	max. Earth dist.	713 Oct 27 j 09:28	9°♏05'44	6.35513 AU
opposition	707 Nov 05 j 09:33	16°♏01'48	-1°-7'-36	conjunction	713 Oct 29 j 11:19	9°♏33'32	0°51'36
	707 Nov 13 j 00:12	15°♏		minimum elong	713 Oct 29 j 11:21	9°♏33'33	0°51'35
direct	708 Jan 02 j 16:59	11°♏03'45		morning rise	713 Nov 11 j 01:32	12°♏21'44	
	708 Feb 21 j 22:53	15°♏			713 Nov 23 j 01:45	15°♏	
	708 May 07 j 09:37	0°♐		retrograde	714 Mar 13 j 15:56	29°♏53'19	

opposition	714 May 13 j 14:08	25°♄01'10	0°54'33	evening set	720 May 13 j 04:34	5°♄09'21	
min. Earth dist.	714 May 15 j 01:41	24°♄49'50	4.29671 AU				
direct	714 Jul 14 j 16:02	20°♄02'36		conjunction	720 May 26 j 23:05	8°♄18'28	0°-22'-32
	714 Oct 09 j 22:10	0°♄		minimum elong	720 May 26 j 23:07	8°♄18'29	0°22'33
evening set	714 Nov 17 j 03:14	8°♄15'02		max. Earth dist.	720 May 29 j 00:45	8°♄46'55	6.14154 AU
max. Earth dist.	714 Nov 27 j 23:19	10°♄43'46	6.22961 AU	morning rise	720 Jun 09 j 18:15	11°♄27'36	
					720 Oct 01 j 21:41	0°♄	
conjunction	714 Nov 29 j 18:55	11°♄08'48	0°19'26	retrograde	720 Oct 14 j 09:44	0°♄15'29	
minimum elong	714 Nov 29 j 18:56	11°♄08'48	0°19'26		720 Oct 26 j 20:48	30°♄	
morning rise	714 Dec 12 j 10:10	14°♄02'39		min. Earth dist.	720 Dec 11 j 22:42	25°♄21'13	4.21193 AU
	715 Mar 07 j 00:38	0°♄		opposition	720 Dec 13 j 00:38	25°♄12'27	0°-3'-57
retrograde	715 Apr 17 j 04:15	2°♄32'35		asc. node	721 Jan 08 j 23:50	21°♄53'21	
	715 May 28 j 21:02	30°♄		direct	721 Feb 10 j 14:17	20°♄11'15	
desc. node	715 Jun 14 j 02:22	28°♄01'20			721 May 07 j 14:35	0°♄	
opposition	715 Jun 17 j 01:13	27°♄38'36	0°00'-26	evening set	721 Jun 17 j 12:25	8°♄36'29	
min. Earth dist.	715 Jun 18 j 02:36	27°♄30'26	4.15871 AU				
direct	715 Aug 16 j 20:49	22°♄42'40		conjunction	721 Jul 01 j 04:19	11°♄38'23	0°16'58
	715 Oct 27 j 10:59	0°♄		minimum elong	721 Jul 01 j 04:17	11°♄38'22	0°16'57
evening set	715 Dec 20 j 00:09	11°♄30'54		max. Earth dist.	721 Jul 02 j 07:46	11°♄53'39	6.28137 AU
				morning rise	721 Jul 14 j 18:57	14°♄39'24	
conjunction	716 Jan 01 j 18:29	14°♄31'36	0°-20'-22		721 Oct 06 j 15:59	0°♄	
minimum elong	716 Jan 01 j 18:28	14°♄31'36	0°20'23	retrograde	721 Nov 15 j 01:56	2°♄23'39	
max. Earth dist.	715 Dec 31 j 18:02	14°♄17'09	6.09127 AU		721 Dec 24 j 08:16	30°♄	
morning rise	716 Jan 14 j 14:11	17°♄33'15		opposition	722 Jan 13 j 21:45	27°♄24'16	0°50'28
	716 Mar 12 j 14:06	0°♄		min. Earth dist.	722 Jan 13 j 12:39	27°♄27'18	4.34243 AU
retrograde	716 May 22 j 23:05	7°♄10'41		direct	722 Mar 15 j 21:05	22°♄21'29	
opposition	716 Jul 22 j 11:21	2°♄13'28	0°-58'-52		722 May 30 j 19:52	0°♄	
min. Earth dist.	716 Jul 22 j 18:03	2°♄11'17	4.03148 AU	evening set	722 Jul 20 j 21:58	10°♄15'50	
	716 Aug 09 j 03:13	30°♄					
direct	716 Sep 19 j 21:14	27°♄19'31		conjunction	722 Aug 03 j 06:58	13°♄10'15	0°49'40
	716 Oct 30 j 18:26	0°♄		minimum elong	722 Aug 03 j 06:56	13°♄10'13	0°49'41
	717 Jan 15 j 18:44	15°♄		max. Earth dist.	722 Aug 03 j 07:14	13°♄10'23	6.39256 AU
evening set	717 Jan 22 j 22:09	16°♄42'09			722 Aug 11 j 16:39	15°♄	
				morning rise	722 Aug 16 j 13:19	16°♄03'14	
conjunction	717 Feb 04 j 22:11	19°♄49'53	0°-54'-30		722 Oct 31 j 04:27	0°♄	
minimum elong	717 Feb 04 j 22:08	19°♄49'52	0°54'32	retrograde	722 Dec 15 j 11:16	3°♄04'46	
max. Earth dist.	717 Feb 05 j 04:50	19°♄53'54	5.98697 AU		723 Jan 30 j 03:28	30°♄	
morning rise	717 Feb 18 j 00:43	22°♄59'09		opposition	723 Feb 13 j 16:18	28°♄09'05	1°27'57
	717 Mar 20 j 06:22	0°♄		min. Earth dist.	723 Feb 14 j 00:31	28°♄06'24	4.42775 AU
retrograde	717 Jun 30 j 01:28	13°♄27'50		direct	723 Apr 16 j 17:50	23°♄05'59	
min. Earth dist.	717 Aug 28 j 10:54	8°♄31'48	3.96226 AU		723 Jun 28 j 08:51	0°♄	
opposition	717 Aug 29 j 02:14	8°♄26'41	-1°-37'-39	evening set	723 Aug 21 j 16:22	10°♄42'36	
direct	717 Oct 26 j 07:25	3°♄33'04					
evening set	718 Feb 28 j 16:32	23°♄13'29		conjunction	723 Sep 03 j 17:22	13°♄31'38	1°07'32
				minimum elong	723 Sep 03 j 17:20	13°♄31'38	1°07'32
conjunction	718 Mar 14 j 00:07	26°♄25'57	-1°-8'-32	max. Earth dist.	723 Sep 02 j 15:56	13°♄17'52	6.44510 AU
minimum elong	718 Mar 14 j 00:07	26°♄25'57	1°08'33	morning rise	723 Sep 16 j 15:21	16°♄19'14	
max. Earth dist.	718 Mar 15 j 12:07	26°♄47'40	5.95847 AU		723 Nov 30 j 02:23	0°♄	
morning rise	718 Mar 27 j 11:06	29°♄40'09		retrograde	724 Jan 14 j 16:59	3°♄05'14	
	718 Mar 28 j 20:19	0°♄			724 Feb 29 j 22:07	30°♄	
retrograde	718 Aug 06 j 18:26	20°♄16'25		opposition	724 Mar 15 j 06:05	28°♄12'16	1°40'57
min. Earth dist.	718 Oct 04 j 04:10	15°♄22'43	3.97915 AU	min. Earth dist.	724 Mar 16 j 06:57	28°♄04'17	4.44564 AU
opposition	718 Oct 05 j 11:33	15°♄12'03	-1°-38'-2	direct	724 May 16 j 23:09	23°♄09'59	
direct	718 Dec 02 j 07:47	10°♄16'35			724 Jul 28 j 07:13	0°♄	
evening set	719 Apr 07 j 05:51	29°♄48'34		evening set	724 Sep 20 j 11:30	10°♄44'40	
	719 Apr 08 j 01:19	0°♄		max. Earth dist.	724 Oct 01 j 09:58	13°♄07'43	6.42600 AU
conjunction	719 Apr 20 j 21:02	3°♄01'43	0°-55'-44	conjunction	724 Oct 03 j 06:14	13°♄31'56	1°06'57
minimum elong	719 Apr 20 j 21:05	3°♄01'45	0°55'44	minimum elong	724 Oct 03 j 06:15	13°♄31'56	1°06'57
max. Earth dist.	719 Apr 23 j 02:48	3°♄33'30	6.01838 AU	morning rise	724 Oct 15 j 22:32	16°♄18'05	
morning rise	719 May 04 j 14:32	6°♄15'55			724 Dec 28 j 11:27	0°♄	
	719 Jun 12 j 15:51	15°♄		retrograde	725 Feb 13 j 17:00	3°♄16'54	
retrograde	719 Sep 11 j 19:32	26°♄10'53			725 Apr 02 j 20:45	30°♄	
min. Earth dist.	719 Nov 08 j 22:00	21°♄17'15	4.07502 AU	opposition	725 Apr 15 j 12:50	28°♄25'04	1°26'56
opposition	719 Nov 10 j 07:33	21°♄05'48	-1°00'-37	min. Earth dist.	725 Apr 16 j 23:28	28°♄14'01	4.39120 AU
direct	720 Jan 07 j 18:06	16°♄07'19		direct	725 Jun 17 j 04:34	23°♄24'28	
	720 Apr 20 j 02:50	0°♄			725 Aug 26 j 11:04	0°♄	

evening set	725 Oct 21 j 03:48	11° \mathbb{M} 13'25		conjunction	731 Apr 26 j 05:29	8° \mathcal{B} 16'33	0°-51'-57
max. Earth dist.	725 Oct 31 j 18:27	13° \mathbb{M} 35'18	6.33997 AU	minimum elong	731 Apr 26 j 05:32	8° \mathcal{B} 16'35	0°51'58
				max. Earth dist.	731 Apr 28 j 12:38	8° \mathcal{B} 49'00	6.03481 AU
conjunction	725 Nov 02 j 19:31	14° \mathbb{M} 02'46	0°47'51	morning rise	731 May 09 j 23:37	11° \mathcal{B} 30'13	
minimum elong	725 Nov 02 j 19:33	14° \mathbb{M} 02'47	0°47'51		731 May 25 j 04:01	15° \mathcal{B}	
	725 Nov 07 j 01:47	15° \mathbb{M}			731 Aug 19 j 18:19	0° \mathbb{I}	
morning rise	725 Nov 15 j 09:31	16° \mathbb{M} 51'32		retrograde	731 Sep 16 j 15:55	1° \mathbb{I} 15'27	
	726 Jan 21 j 11:44	0° \mathcal{A}			731 Oct 14 j 07:22	30° $\mathcal{R}\mathcal{B}$	
retrograde	726 Mar 18 j 08:16	4° \mathcal{A} 30'10		min. Earth dist.	731 Nov 13 j 19:04	26° \mathcal{B} 22'06	4.09560 AU
	726 May 15 j 09:54	30° $\mathcal{R}\mathbb{M}$		opposition	731 Nov 15 j 05:14	26° \mathcal{B} 10'27	0°-53'-13
opposition	726 May 18 j 07:24	29° \mathbb{M} 37'53	0°47'40	direct	732 Jan 12 j 18:08	21° \mathcal{B} 11'32	
min. Earth dist.	726 May 19 j 18:07	29° \mathbb{M} 26'49	4.27813 AU		732 Mar 31 j 21:38	0° \mathbb{I}	
direct	726 Jul 19 j 05:22	24° \mathbb{M} 39'43		evening set	732 May 18 j 06:46	10° \mathbb{I} 07'11	
	726 Sep 18 j 17:41	0° \mathcal{A}					
evening set	726 Nov 21 j 15:54	12° \mathcal{A} 57'04		conjunction	732 Jun 01 j 01:09	13° \mathbb{I} 15'13	0°-17'-1
max. Earth dist.	726 Dec 02 j 12:59	15° \mathcal{A} 27'07	6.20913 AU	minimum elong	732 Jun 01 j 01:10	13° \mathbb{I} 15'13	0°17'01
				max. Earth dist.	732 Jun 02 j 23:37	13° \mathbb{I} 41'42	6.16443 AU
conjunction	726 Dec 04 j 07:39	15° \mathcal{A} 51'44	0°14'01	morning rise	732 Jun 14 j 19:59	16° \mathbb{I} 23'09	
minimum elong	726 Dec 04 j 07:40	15° \mathcal{A} 51'44	0°14'01		732 Aug 21 j 19:13	0° \mathcal{E}	
behind sun begin	726 Dec 04 j 03:28	15° \mathcal{A} 49'20		retrograde	732 Oct 18 j 23:02	5° \mathcal{E} 00'10	
behind sun end	726 Dec 04 j 11:52	15° \mathcal{A} 54'09		asc. node	732 Nov 18 j 18:23	3° \mathcal{E} 27'59	
morning rise	726 Dec 16 j 23:27	18° \mathcal{A} 46'39		opposition	732 Dec 17 j 14:32	29° \mathbb{I} 57'31	0°04'13
	727 Feb 08 j 01:11	0° \mathcal{B}		min. Earth dist.	732 Dec 16 j 15:27	0° \mathcal{E} 05'19	4.23469 AU
retrograde	727 Apr 22 j 06:18	7° \mathcal{B} 26'22			732 Dec 17 j 07:10	30° $\mathcal{R}\mathbb{I}$	
desc. node	727 Apr 23 j 09:36	7° \mathcal{B} 26'14		direct	733 Feb 15 j 10:16	24° \mathbb{I} 55'57	
opposition	727 Jun 22 j 01:44	2° \mathcal{B} 32'01	0°-8'-58		733 Apr 15 j 17:35	0° \mathcal{E}	
min. Earth dist.	727 Jun 23 j 01:32	2° \mathcal{B} 24'21	4.13770 AU	evening set	733 Jun 22 j 07:01	13° \mathcal{E} 15'02	
	727 Jul 12 j 17:48	30° $\mathcal{R}\mathcal{A}$					
direct	727 Aug 21 j 17:32	27° \mathcal{A} 36'24		conjunction	733 Jul 05 j 22:11	16° \mathcal{E} 15'44	0°22'10
	727 Sep 30 j 00:53	0° \mathcal{B}		minimum elong	733 Jul 05 j 22:10	16° \mathcal{E} 15'43	0°22'10
evening set	727 Dec 24 j 19:32	16° \mathcal{B} 30'32		max. Earth dist.	733 Jul 06 j 22:47	16° \mathcal{E} 29'20	6.30217 AU
				morning rise	733 Jul 19 j 11:40	19° \mathcal{E} 15'23	
conjunction	728 Jan 06 j 14:41	19° \mathcal{B} 32'24	0°-25'-54		733 Sep 10 j 13:57	0° \mathcal{Q}	
minimum elong	728 Jan 06 j 14:40	19° \mathcal{B} 32'23	0°25'54	retrograde	733 Nov 19 j 07:12	6° \mathcal{Q} 51'18	
max. Earth dist.	728 Jan 05 j 18:36	19° \mathcal{B} 20'29	6.07179 AU	opposition	734 Jan 18 j 05:34	1° \mathcal{Q} 52'26	0°56'55
morning rise	728 Jan 19 j 11:10	22° \mathcal{B} 35'16		min. Earth dist.	734 Jan 17 j 22:18	1° \mathcal{Q} 54'51	4.35978 AU
	728 Feb 21 j 00:35	0° \approx			734 Feb 01 j 17:40	30° $\mathcal{R}\mathcal{E}$	
retrograde	728 May 28 j 08:16	12° \approx 22'13		direct	734 Mar 20 j 08:40	26° \mathcal{E} 49'30	
opposition	728 Jul 27 j 18:10	7° \approx 24'33	-1°-6'-8		734 May 06 j 09:21	0° \mathcal{Q}	
min. Earth dist.	728 Jul 27 j 21:49	7° \approx 23'22	4.01567 AU	evening set	734 Jul 25 j 09:54	14° \mathcal{Q} 39'51	
direct	728 Sep 24 j 22:34	2° \approx 30'51			734 Jul 26 j 23:14	15° \mathcal{Q}	
	728 Dec 29 j 01:43	15° \approx					
evening set	729 Jan 28 j 01:16	21° \approx 58'01		conjunction	734 Aug 07 j 17:39	17° \mathcal{Q} 33'16	0°53'09
				minimum elong	734 Aug 07 j 17:37	17° \mathcal{Q} 33'14	0°53'09
conjunction	729 Feb 10 j 02:09	25° \approx 06'39	0°-58'00	max. Earth dist.	734 Aug 07 j 12:42	17° \mathcal{Q} 30'34	6.40507 AU
minimum elong	729 Feb 10 j 02:07	25° \approx 06'38	0°58'01	morning rise	734 Aug 20 j 22:50	20° \mathcal{Q} 25'16	
max. Earth dist.	729 Feb 10 j 12:20	25° \approx 12'48	5.97626 AU		734 Oct 07 j 12:57	0° \mathbb{M}	
morning rise	729 Feb 23 j 05:59	28° \approx 16'56		retrograde	734 Dec 19 j 16:28	7° \mathbb{M} 22'42	
	729 Mar 02 j 10:45	0° \mathcal{H}		opposition	735 Feb 17 j 21:58	2° \mathbb{M} 27'28	1°31'18
retrograde	729 Jul 05 j 10:41	18° \mathcal{H} 50'23		min. Earth dist.	735 Feb 18 j 09:54	2° \mathbb{M} 23'35	4.43473 AU
opposition	729 Sep 03 j 11:09	13° \mathcal{H} 48'40	-1°-40'-17		735 Mar 09 j 16:10	30° $\mathcal{R}\mathcal{Q}$	
min. Earth dist.	729 Sep 02 j 16:07	13° \mathcal{H} 55'03	3.95828 AU	direct	735 Apr 21 j 03:37	27° \mathcal{Q} 24'23	
direct	729 Oct 31 j 13:17	8° \mathcal{H} 54'56			735 Jun 02 j 21:02	0° \mathbb{M}	
evening set	730 Mar 06 j 00:36	28° \mathcal{H} 36'03		evening set	735 Aug 25 j 23:41	14° \mathbb{M} 59'47	
	730 Mar 11 j 20:33	0° \mathcal{Y}					
				conjunction	735 Sep 07 j 23:46	17° \mathbb{M} 48'25	1°08'35
conjunction	730 Mar 19 j 09:29	1° \mathcal{Y} 48'56	-1°-8'-20	minimum elong	735 Sep 07 j 23:45	17° \mathbb{M} 48'25	1°08'35
minimum elong	730 Mar 19 j 09:30	1° \mathcal{Y} 48'56	1°08'21	max. Earth dist.	735 Sep 06 j 18:23	17° \mathbb{M} 32'30	6.44578 AU
max. Earth dist.	730 Mar 21 j 02:45	2° \mathcal{Y} 13'47	5.96181 AU	morning rise	735 Sep 20 j 20:50	20° \mathbb{M} 35'38	
morning rise	730 Apr 01 j 21:24	5° \mathcal{Y} 03'24			735 Nov 06 j 15:37	0° \mathcal{L}	
retrograde	730 Aug 12 j 01:42	25° \mathcal{Y} 36'16		retrograde	736 Jan 18 j 22:28	7° \mathcal{L} 22'14	
min. Earth dist.	730 Oct 09 j 08:51	20° \mathcal{Y} 42'30	3.98956 AU	opposition	736 Mar 19 j 13:04	2° \mathcal{L} 29'29	1°40'36
opposition	730 Oct 10 j 16:54	20° \mathcal{Y} 31'35	-1°-34'-41	min. Earth dist.	736 Mar 20 j 15:36	2° \mathcal{L} 20'58	4.44024 AU
direct	730 Dec 07 j 14:54	15° \mathcal{Y} 35'44			736 Apr 08 j 21:26	30° $\mathcal{R}\mathbb{M}$	
	731 Mar 21 j 13:08	0° \mathcal{B}		direct	736 May 21 j 06:07	27° \mathbb{M} 27'21	
evening set	731 Apr 12 j 13:35	5° \mathcal{B} 03'49			736 Jul 02 j 16:55	0° \mathcal{L}	
				evening set	736 Sep 24 j 17:49	15° \mathcal{L} 03'52	

max. Earth dist.	736 Oct 05 j 15:02	17°♄26'38	6.41488 AU	conjunction	742 Mar 24 j 18:37	7°♃10'22	-1°-7'-33
				minimum elong	742 Mar 24 j 18:39	7°♃10'22	1°07'34
conjunction	736 Oct 07 j 12:02	17°♄51'19	1°05'20	max. Earth dist.	742 Mar 26 j 15:00	7°♃36'59	5.96979 AU
minimum elong	736 Oct 07 j 12:03	17°♄51'20	1°05'19	morning rise	742 Apr 07 j 07:41	10°♃24'55	
morning rise	736 Oct 20 j 03:43	20°♄37'42			742 Jul 25 j 01:28	0°♄	
	736 Dec 05 j 01:37	0°♄		retrograde	742 Aug 17 j 05:15	0°♄52'20	
retrograde	737 Feb 18 j 04:15	7°♄41'34			742 Sep 09 j 04:20	30°♄	
opposition	737 Apr 20 j 00:32	2°♄49'49	1°22'51	min. Earth dist.	742 Oct 14 j 10:39	25°♄59'01	4.00355 AU
min. Earth dist.	737 Apr 21 j 12:16	2°♄38'27	4.37500 AU	opposition	742 Oct 15 j 20:36	25°♄47'28	-1°-30'-35
	737 May 13 j 16:10	30°♄		direct	742 Dec 12 j 18:45	20°♄51'14	
direct	737 Jun 21 j 14:53	27°♄49'34			743 Mar 02 j 06:49	0°♄	
	737 Jul 30 j 09:08	0°♄		evening set	743 Apr 17 j 19:42	10°♄14'32	
	737 Oct 22 j 07:23	15°♄					
evening set	737 Oct 25 j 12:45	15°♄42'59		conjunction	743 May 01 j 12:08	13°♄26'41	0°-47'-49
max. Earth dist.	737 Nov 05 j 01:49	18°♄04'44	6.31993 AU	minimum elong	743 May 01 j 12:11	13°♄26'43	0°47'50
				max. Earth dist.	743 May 03 j 18:11	13°♄58'21	6.05331 AU
conjunction	737 Nov 07 j 04:13	18°♄33'04	0°43'49		743 May 08 j 03:34	15°♄	
minimum elong	737 Nov 07 j 04:15	18°♄33'05	0°43'50	morning rise	743 May 15 j 06:41	16°♄39'39	
morning rise	737 Nov 19 j 18:29	21°♄22'44			743 Jul 18 j 00:27	0°♄	
	737 Dec 30 j 10:39	0°♄		retrograde	743 Sep 21 j 11:11	6°♄15'00	
retrograde	738 Mar 23 j 04:08	9°♄10'12		min. Earth dist.	743 Nov 18 j 16:32	1°♄21'15	4.11645 AU
opposition	738 May 23 j 02:35	4°♄17'43	0°40'25	opposition	743 Nov 20 j 00:58	1°♄10'12	0°-45'-32
min. Earth dist.	738 May 24 j 12:16	4°♄06'57	4.25550 AU		743 Nov 28 j 17:06	30°♄	
	738 Jul 02 j 23:46	30°♄		direct	744 Jan 17 j 18:39	26°♄10'53	
direct	738 Jul 23 j 20:38	29°♄19'55			744 Mar 07 j 14:52	0°♄	
	738 Aug 13 j 16:45	0°♄		evening set	744 May 23 j 07:10	15°♄00'37	
evening set	738 Nov 26 j 06:17	17°♄43'26					
max. Earth dist.	738 Dec 07 j 07:34	20°♄16'39	6.18601 AU	conjunction	744 Jun 06 j 01:31	18°♄07'39	0°-11'-26
				minimum elong	744 Jun 06 j 01:31	18°♄07'39	0°11'27
conjunction	738 Dec 08 j 22:33	20°♄39'15	0°08'27	behind sun begin	744 Jun 05 j 19:36	18°♄04'18	
minimum elong	738 Dec 08 j 22:34	20°♄39'15	0°08'26	behind sun end	744 Jun 06 j 07:27	18°♄11'00	
behind sun begin	738 Dec 08 j 15:32	20°♄35'12		max. Earth dist.	744 Jun 07 j 22:33	18°♄33'11	6.18605 AU
behind sun end	738 Dec 09 j 05:35	20°♄43'19		morning rise	744 Jun 19 j 19:44	21°♄14'23	
morning rise	738 Dec 21 j 14:46	23°♄35'22			744 Jul 30 j 21:01	0°♄	
	739 Jan 19 j 06:48	0°♄		asc. node	744 Sep 28 j 11:45	8°♄41'26	
desc. node	739 Mar 02 j 10:06	7°♄51'32		retrograde	744 Oct 23 j 10:07	9°♄41'28	
retrograde	739 Apr 27 j 11:05	12°♄25'47		min. Earth dist.	744 Dec 21 j 05:15	4°♄46'38	4.25520 AU
opposition	739 Jun 27 j 05:07	7°♄31'07	0°-17'-37	opposition	744 Dec 22 j 02:47	4°♄39'23	0°12'18
min. Earth dist.	739 Jun 28 j 02:18	7°♄24'17	4.11606 AU		745 Feb 04 j 22:51	30°♄	
direct	739 Aug 26 j 15:26	2°♄35'55		direct	745 Feb 20 j 02:29	29°♄37'37	
evening set	739 Dec 29 j 17:43	21°♄35'59			745 Mar 07 j 10:15	0°♄	
				evening set	745 Jun 27 j 00:42	17°♄51'45	
conjunction	740 Jan 11 j 13:23	24°♄38'55	0°-31'-19				
minimum elong	740 Jan 11 j 13:21	24°♄38'54	0°31'21	conjunction	745 Jul 10 j 14:50	20°♄51'18	0°27'13
max. Earth dist.	740 Jan 10 j 20:40	24°♄28'58	6.05353 AU	minimum elong	745 Jul 10 j 14:48	20°♄51'17	0°27'13
morning rise	740 Jan 24 j 10:54	27°♄43'00		max. Earth dist.	745 Jul 11 j 09:42	21°♄01'42	6.31996 AU
	740 Feb 03 j 03:55	0°♄		morning rise	745 Jul 24 j 03:24	23°♄49'48	
	740 Apr 22 j 02:21	15°♄			745 Aug 22 j 06:04	0°♄	
retrograde	740 Jun 02 j 17:40	17°♄38'49		retrograde	745 Nov 23 j 14:49	11°♄18'50	
	740 Jul 14 j 17:10	15°♄		opposition	746 Jan 22 j 13:28	6°♄20'33	1°03'02
opposition	740 Aug 02 j 03:05	12°♄40'33	-1°-12'-58	min. Earth dist.	746 Jan 22 j 09:52	6°♄21'44	4.37373 AU
min. Earth dist.	740 Aug 02 j 02:23	12°♄40'47	4.00282 AU	direct	746 Mar 24 j 21:48	1°♄17'29	
direct	740 Sep 30 j 02:32	7°♄46'59			746 Jul 10 j 14:31	15°♄	
	740 Dec 08 j 11:20	15°♄		evening set	746 Jul 29 j 21:29	19°♄04'59	
evening set	741 Feb 02 j 06:17	27°♄17'23					
	741 Feb 13 j 12:00	0°♄		conjunction	746 Aug 12 j 04:18	21°♄57'37	0°56'21
				minimum elong	746 Aug 12 j 04:16	21°♄57'35	0°56'20
conjunction	741 Feb 15 j 08:18	0°♄26'47	-1°-1'-3	max. Earth dist.	746 Aug 11 j 20:25	21°♄53'20	6.41410 AU
minimum elong	741 Feb 15 j 08:16	0°♄26'46	1°01'04	morning rise	746 Aug 25 j 08:09	24°♄48'45	
max. Earth dist.	741 Feb 16 j 01:09	0°♄36'58	5.96999 AU		746 Sep 19 j 00:26	0°♄	
morning rise	741 Feb 28 j 13:04	3°♄37'48		retrograde	746 Dec 23 j 20:37	11°♄43'22	
retrograde	741 Jul 10 j 22:08	24°♄13'39		opposition	747 Feb 22 j 04:25	6°♄48'34	1°34'11
opposition	741 Sep 08 j 20:19	19°♄11'24	-1°-42'-1	min. Earth dist.	747 Feb 22 j 17:59	6°♄44'10	4.43861 AU
min. Earth dist.	741 Sep 07 j 23:20	19°♄18'27	3.95941 AU	direct	747 Apr 25 j 11:33	1°♄45'35	
direct	741 Nov 05 j 21:41	14°♄17'30		evening set	747 Aug 30 j 08:05	19°♄20'40	
	742 Feb 22 j 14:01	0°♄		max. Earth dist.	747 Sep 10 j 22:28	21°♄51'14	6.44414 AU
evening set	742 Mar 11 j 08:45	3°♄57'22					

conjunction	747 Sep 12 j 07:06	22° \mathbb{M} 08'57	1°09'15	min. Earth dist.	753 Sep 13 j 01:29	24° \mathbb{H} 33'35	3.96404 AU
minimum elong	747 Sep 12 j 07:06	22° \mathbb{M} 08'57	1°09'15	opposition	753 Sep 14 j 01:37	24° \mathbb{H} 25'27	-1°-42'-50
morning rise	747 Sep 25 j 03:18	24° \mathbb{M} 55'53		direct	753 Nov 11 j 00:51	19° \mathbb{H} 31'19	
	747 Oct 19 j 05:19	0° \mathbb{A}			754 Feb 04 j 07:30	0° \mathbb{Y}	
retrograde	748 Jan 23 j 06:56	11° \mathbb{A} 43'47		evening set	754 Mar 16 j 13:28	9° \mathbb{Y} 08'53	
opposition	748 Mar 23 j 21:40	6° \mathbb{A} 51'18	1°39'43				
min. Earth dist.	748 Mar 25 j 02:51	6° \mathbb{A} 41'58	4.43329 AU	conjunction	754 Mar 30 j 00:18	12° \mathbb{Y} 21'50	-1°-6'-14
direct	748 May 25 j 16:22	1° \mathbb{A} 49'23		minimum elong	754 Mar 30 j 00:20	12° \mathbb{Y} 21'51	1°06'14
evening set	748 Sep 29 j 01:34	19° \mathbb{A} 28'02		max. Earth dist.	754 Mar 31 j 22:19	12° \mathbb{Y} 49'23	5.98006 AU
max. Earth dist.	748 Oct 09 j 19:59	21° \mathbb{A} 49'43	6.40304 AU	morning rise	754 Apr 12 j 14:15	15° \mathbb{Y} 36'18	
					754 Jun 19 j 13:20	0° \mathbb{B}	
conjunction	748 Oct 11 j 19:16	22° \mathbb{A} 15'44	1°03'19	retrograde	754 Aug 22 j 04:33	5° \mathbb{B} 57'28	
minimum elong	748 Oct 11 j 19:17	22° \mathbb{A} 15'45	1°03'19	min. Earth dist.	754 Oct 19 j 10:15	1° \mathbb{B} 03'52	4.01814 AU
morning rise	748 Oct 24 j 10:38	25° \mathbb{A} 02'27		opposition	754 Oct 20 j 19:50	0° \mathbb{B} 52'24	-1°-25'-54
	748 Nov 16 j 15:04	0° \mathbb{M}			754 Oct 27 j 06:29	30° \mathbb{R} \mathbb{Y}	
retrograde	749 Feb 22 j 16:55	12° \mathbb{M} 11'35		direct	754 Dec 17 j 20:35	25° \mathbb{Y} 55'43	
opposition	749 Apr 24 j 14:14	7° \mathbb{M} 19'48	1°18'11		755 Feb 06 j 14:48	0° \mathbb{B}	
min. Earth dist.	749 Apr 26 j 01:36	7° \mathbb{M} 08'32	4.35913 AU		755 Apr 21 j 21:08	15° \mathbb{B}	
direct	749 Jun 26 j 01:49	2° \mathbb{M} 19'52		evening set	755 Apr 22 j 21:52	15° \mathbb{B} 14'20	
	749 Oct 05 j 15:50	15° \mathbb{M}					
evening set	749 Oct 29 j 22:56	20° \mathbb{M} 17'23		conjunction	755 May 06 j 15:01	18° \mathbb{B} 25'59	0°-43'-28
max. Earth dist.	749 Nov 09 j 14:17	22° \mathbb{M} 41'00	6.30152 AU	minimum elong	755 May 06 j 15:04	18° \mathbb{B} 26'00	0°43'28
				max. Earth dist.	755 May 08 j 21:38	18° \mathbb{B} 57'50	6.07101 AU
conjunction	749 Nov 11 j 14:26	23° \mathbb{M} 08'11	0°39'28	morning rise	755 May 20 j 09:46	21° \mathbb{B} 38'14	
minimum elong	749 Nov 11 j 14:28	23° \mathbb{M} 08'12	0°39'28		755 Jun 27 j 06:15	0° \mathbb{I}	
morning rise	749 Nov 24 j 04:39	25° \mathbb{M} 58'38		retrograde	755 Sep 26 j 03:19	11° \mathbb{I} 04'10	
	749 Dec 12 j 09:35	0° \mathbb{J}		min. Earth dist.	755 Nov 23 j 09:29	6° \mathbb{I} 10'21	4.13534 AU
retrograde	750 Mar 28 j 01:27	13° \mathbb{J} 54'20		opposition	755 Nov 24 j 16:47	5° \mathbb{I} 59'42	0°-37'-49
opposition	750 May 27 j 23:20	9° \mathbb{J} 01'41	0°32'47	direct	756 Jan 22 j 13:38	1° \mathbb{I} 00'01	
min. Earth dist.	750 May 29 j 08:01	8° \mathbb{J} 51'15	4.23581 AU	evening set	756 May 28 j 04:13	19° \mathbb{I} 44'47	
direct	750 Jul 28 j 13:52	4° \mathbb{J} 04'20					
evening set	750 Nov 30 j 21:48	22° \mathbb{J} 32'47		conjunction	756 Jun 10 j 22:10	22° \mathbb{I} 50'53	0°-5'-58
max. Earth dist.	750 Dec 12 j 01:00	25° \mathbb{J} 07'50	6.16690 AU	minimum elong	756 Jun 10 j 22:11	22° \mathbb{I} 50'54	0°06'00
				behind sun begin	756 Jun 10 j 14:15	22° \mathbb{I} 46'26	
conjunction	750 Dec 13 j 14:15	25° \mathbb{J} 29'30	0°02'47	behind sun end	756 Jun 11 j 06:07	22° \mathbb{I} 55'22	
minimum elong	750 Dec 13 j 14:15	25° \mathbb{J} 29'30	0°02'48	max. Earth dist.	756 Jun 12 j 14:25	23° \mathbb{I} 13'37	6.20455 AU
behind sun begin	750 Dec 13 j 06:16	25° \mathbb{J} 24'53		morning rise	756 Jun 24 j 16:07	25° \mathbb{I} 56'39	
behind sun end	750 Dec 13 j 22:14	25° \mathbb{J} 34'07			756 Jul 13 j 02:06	0° \mathbb{S}	
morning rise	750 Dec 26 j 07:11	28° \mathbb{J} 26'42		asc. node	756 Aug 09 j 10:36	5° \mathbb{S} 34'34	
	751 Jan 02 j 01:09	0° \mathbb{Z}		retrograde	756 Oct 27 j 19:36	14° \mathbb{S} 15'23	
desc. node	751 Jan 09 j 14:23	1° \mathbb{Z} 43'01		opposition	756 Dec 26 j 12:45	9° \mathbb{S} 13'48	0°20'03
retrograde	751 May 02 j 14:43	17° \mathbb{Z} 26'12		min. Earth dist.	756 Dec 25 j 18:00	9° \mathbb{S} 20'06	4.27177 AU
opposition	751 Jul 02 j 08:21	12° \mathbb{Z} 31'01	0°-26'-8	direct	757 Feb 24 j 17:18	4° \mathbb{S} 11'46	
min. Earth dist.	751 Jul 03 j 01:45	12° \mathbb{Z} 25'23	4.09919 AU	evening set	757 Jul 01 j 15:58	22° \mathbb{S} 22'22	
direct	751 Aug 31 j 13:21	7° \mathbb{Z} 36'07					
evening set	752 Jan 03 j 15:26	26° \mathbb{Z} 40'19		conjunction	757 Jul 15 j 05:27	25° \mathbb{S} 21'03	0°31'58
				minimum elong	757 Jul 15 j 05:25	25° \mathbb{S} 21'02	0°31'58
conjunction	752 Jan 16 j 11:55	29° \mathbb{Z} 44'07	0°-36'-28	max. Earth dist.	757 Jul 15 j 21:35	25° \mathbb{S} 29'55	6.33357 AU
minimum elong	752 Jan 16 j 11:53	29° \mathbb{Z} 44'06	0°36'29	morning rise	757 Jul 28 j 16:48	28° \mathbb{S} 18'31	
max. Earth dist.	752 Jan 16 j 01:16	29° \mathbb{Z} 37'46	6.04061 AU		757 Aug 05 j 11:51	0° \mathbb{Q}	
	752 Jan 17 j 14:30	0° \mathbb{W}			757 Nov 06 j 20:17	15° \mathbb{Q}	
morning rise	752 Jan 29 j 10:09	2° \mathbb{W} 49'07		retrograde	757 Nov 27 j 20:29	15° \mathbb{Q} 42'15	
	752 Mar 25 j 05:46	15° \mathbb{W}			757 Dec 18 j 18:17	15° \mathbb{R} \mathbb{Q}	
retrograde	752 Jun 08 j 02:37	22° \mathbb{W} 51'22		opposition	758 Jan 26 j 20:06	10° \mathbb{Q} 44'33	1°08'40
opposition	752 Aug 07 j 10:07	17° \mathbb{W} 52'30	-1°-19'-4	min. Earth dist.	758 Jan 26 j 18:29	10° \mathbb{Q} 45'05	4.38367 AU
min. Earth dist.	752 Aug 07 j 06:58	17° \mathbb{W} 53'33	3.99527 AU	direct	758 Mar 29 j 07:17	5° \mathbb{Q} 41'31	
	752 Aug 30 j 18:08	15° \mathbb{R} \mathbb{W}			758 Jun 22 j 21:47	15° \mathbb{Q}	
direct	752 Oct 05 j 06:36	12° \mathbb{W} 59'02		evening set	758 Aug 03 j 08:26	23° \mathbb{Q} 27'27	
	752 Nov 09 j 08:05	15° \mathbb{W}					
	753 Jan 27 j 20:15	0° \mathbb{H}		conjunction	758 Aug 16 j 14:02	26° \mathbb{Q} 19'24	0°59'10
evening set	753 Feb 07 j 09:13	2° \mathbb{H} 30'41		minimum elong	758 Aug 16 j 14:00	26° \mathbb{Q} 19'23	0°59'10
				max. Earth dist.	758 Aug 16 j 01:08	26° \mathbb{Q} 12'24	6.41962 AU
conjunction	753 Feb 20 j 12:06	5° \mathbb{H} 40'33	-1°-3'-32	morning rise	758 Aug 29 j 16:57	29° \mathbb{Q} 09'56	
minimum elong	753 Feb 20 j 12:04	5° \mathbb{H} 40'32	1°03'32		758 Sep 02 j 14:06	0° \mathbb{M}	
max. Earth dist.	753 Feb 21 j 08:39	5° \mathbb{H} 52'58	5.96828 AU	retrograde	758 Dec 28 j 03:32	16° \mathbb{M} 02'53	
morning rise	753 Mar 05 j 18:05	8° \mathbb{H} 52'08		opposition	759 Feb 26 j 11:06	11° \mathbb{M} 08'32	1°36'30
retrograde	753 Jul 16 j 03:36	29° \mathbb{H} 28'12		min. Earth dist.	759 Feb 27 j 03:43	11° \mathbb{M} 03'08	4.43970 AU

direct	759 Apr 29 j 21:11	6°♎05'38		minimum elong	765 Feb 25 j 15:31	10°♎52'57	1°05'32
evening set	759 Sep 03 j 16:05	23°♎41'05		max. Earth dist.	765 Feb 26 j 15:51	11°♎07'39	5.96456 AU
max. Earth dist.	759 Sep 15 j 04:18	26°♎10'40	6.44069 AU	morning rise	765 Mar 10 j 22:35	14°♎05'10	
					765 May 26 j 07:28	0°♎	
conjunction	759 Sep 16 j 14:24	26°♎29'12	1°09'31	retrograde	765 Jul 21 j 09:25	4°♎42'25	
minimum elong	759 Sep 16 j 14:24	26°♎29'12	1°09'30		765 Sep 16 j 16:23	30°♎	
morning rise	759 Sep 29 j 09:41	29°♎15'56		min. Earth dist.	765 Sep 18 j 04:38	29°♎47'46	3.96581 AU
	759 Oct 02 j 19:27	0°♎		opposition	765 Sep 19 j 06:03	29°♎39'11	-1°-42'-53
retrograde	760 Jan 27 j 14:12	16°♎05'44		direct	765 Nov 16 j 04:55	24°♎44'43	
opposition	760 Mar 28 j 06:54	11°♎13'27	1°38'14		766 Jan 13 j 00:11	0°♎	
min. Earth dist.	760 Mar 29 j 12:12	11°♎04'05	4.42572 AU	evening set	766 Mar 21 j 18:30	14°♎21'28	
direct	760 May 30 j 00:18	6°♎11'49					
evening set	760 Oct 03 j 09:20	23°♎52'29		conjunction	766 Apr 04 j 06:32	17°♎34'37	-1°-4'-25
max. Earth dist.	760 Oct 14 j 02:57	26°♎14'11	6.39189 AU	minimum elong	766 Apr 04 j 06:34	17°♎34'38	1°04'26
				max. Earth dist.	766 Apr 06 j 07:52	18°♎04'03	5.98709 AU
conjunction	760 Oct 16 j 02:28	26°♎40'25	1°00'55	morning rise	766 Apr 17 j 21:23	20°♎49'09	
minimum elong	760 Oct 16 j 02:30	26°♎40'26	1°00'56		766 May 28 j 15:32	0°♎	
morning rise	760 Oct 28 j 17:28	29°♎27'26		retrograde	766 Aug 27 j 05:37	11°♎05'10	
	760 Oct 31 j 04:54	0°♎		min. Earth dist.	766 Oct 24 j 09:45	6°♎11'36	4.02962 AU
	761 Jan 24 j 20:58	15°♎		opposition	766 Oct 25 j 19:38	6°♎00'03	-1°-20'-36
retrograde	761 Feb 27 j 07:21	16°♎41'35		direct	766 Dec 22 j 21:38	1°♎02'57	
	761 Apr 01 j 22:24	15°♎			767 Apr 04 j 15:52	15°♎	
opposition	761 Apr 29 j 04:19	11°♎49'49	1°13'01	evening set	767 Apr 28 j 01:39	20°♎18'11	
min. Earth dist.	761 Apr 30 j 16:28	11°♎38'19	4.34487 AU				
direct	761 Jun 30 j 14:52	6°♎50'14		conjunction	767 May 11 j 19:09	23°♎29'21	0°-38'-44
	761 Sep 17 j 04:24	15°♎		minimum elong	767 May 11 j 19:12	23°♎29'22	0°38'44
evening set	761 Nov 03 j 08:49	24°♎51'07		max. Earth dist.	767 May 13 j 23:40	23°♎59'50	6.08573 AU
max. Earth dist.	761 Nov 14 j 00:07	27°♎15'17	6.28517 AU	morning rise	767 May 25 j 14:23	26°♎41'05	
					767 Jun 09 j 04:15	0°♎	
conjunction	761 Nov 16 j 00:14	27°♎42'33	0°34'52	retrograde	767 Sep 30 j 20:14	15°♎58'40	
minimum elong	761 Nov 16 j 00:16	27°♎42'34	0°34'51	min. Earth dist.	767 Nov 28 j 04:04	11°♎04'44	4.15172 AU
	761 Nov 26 j 02:54	0°♎		opposition	767 Nov 29 j 10:17	10°♎54'27	0°-29'-45
morning rise	761 Nov 28 j 14:43	0°♎33'45		direct	768 Jan 27 j 11:05	5°♎54'21	
retrograde	762 Apr 01 j 20:54	18°♎37'02		evening set	768 Jun 02 j 03:34	24°♎35'02	
opposition	762 Jun 01 j 19:16	13°♎44'05	0°24'56				
min. Earth dist.	762 Jun 03 j 01:32	13°♎34'24	4.21827 AU	conjunction	768 Jun 15 j 21:21	27°♎40'17	0°00'-17
direct	762 Aug 02 j 04:43	8°♎47'03		minimum elong	768 Jun 15 j 21:22	27°♎40'18	0°00'18
desc. node	762 Nov 19 j 08:01	23°♎38'29		behind sun begin	768 Jun 15 j 13:03	27°♎35'38	
evening set	762 Dec 05 j 12:07	27°♎19'50		behind sun end	768 Jun 16 j 05:42	27°♎44'57	
	762 Dec 16 j 23:10	0°♎		max. Earth dist.	768 Jun 17 j 11:49	28°♎01'56	6.22154 AU
max. Earth dist.	762 Dec 16 j 19:48	29°♎58'02	6.14957 AU	asc. node	768 Jun 18 j 18:52	28°♎19'25	
					768 Jun 26 j 06:00	0°♎	
conjunction	762 Dec 18 j 05:01	0°♎17'27	0°-2'-58	morning rise	768 Jun 29 j 14:33	0°♎45'01	
minimum elong	762 Dec 18 j 05:00	0°♎17'26	0°02'59	retrograde	768 Nov 01 j 08:14	18°♎55'41	
behind sun begin	762 Dec 17 j 21:02	0°♎12'48		min. Earth dist.	768 Dec 30 j 08:16	14°♎00'14	4.28799 AU
behind sun end	762 Dec 18 j 12:59	0°♎22'05		opposition	768 Dec 31 j 00:56	13°♎54'40	0°27'51
morning rise	762 Dec 30 j 22:22	3°♎15'35		direct	769 Mar 01 j 09:45	8°♎52'27	
retrograde	763 May 07 j 18:38	22°♎23'48		evening set	769 Jul 06 j 09:50	26°♎59'26	
opposition	763 Jul 07 j 10:23	17°♎28'10	0°-34'-26				
min. Earth dist.	763 Jul 08 j 02:09	17°♎23'04	4.08332 AU	conjunction	769 Jul 19 j 22:13	29°♎57'05	0°36'40
direct	763 Sep 05 j 11:23	12°♎33'33		minimum elong	769 Jul 19 j 22:11	29°♎57'04	0°36'40
	764 Jan 01 j 07:42	0°♎		max. Earth dist.	769 Jul 20 j 10:04	0°♎03'35	6.34796 AU
evening set	764 Jan 08 j 11:57	1°♎41'50			769 Jul 20 j 03:32	0°♎	
				morning rise	769 Aug 02 j 08:36	2°♎53'32	
conjunction	764 Jan 21 j 09:04	4°♎46'31	0°-41'-18		769 Oct 03 j 07:12	15°♎	
minimum elong	764 Jan 21 j 09:02	4°♎46'29	0°41'19	retrograde	769 Dec 02 j 04:29	20°♎11'30	
max. Earth dist.	764 Jan 21 j 01:23	4°♎41'55	6.02750 AU	opposition	770 Jan 31 j 05:10	15°♎14'17	1°14'03
morning rise	764 Feb 03 j 08:21	7°♎52'30		min. Earth dist.	770 Jan 31 j 05:49	15°♎14'05	4.39572 AU
	764 Mar 05 j 07:21	15°♎			770 Feb 02 j 00:35	15°♎	
retrograde	764 Jun 13 j 08:05	28°♎01'24		direct	770 Apr 02 j 20:05	10°♎11'12	
opposition	764 Aug 12 j 15:21	23°♎02'00	-1°-24'-34		770 Jun 01 j 00:35	15°♎	
min. Earth dist.	764 Aug 12 j 08:24	23°♎04'18	3.98653 AU	evening set	770 Aug 07 j 20:41	27°♎54'25	
direct	764 Oct 10 j 07:19	18°♎08'32			770 Aug 17 j 13:15	0°♎	
	765 Jan 10 j 04:38	0°♎		max. Earth dist.	770 Aug 20 j 11:12	0°♎37'56	6.42869 AU
evening set	765 Feb 12 j 11:37	7°♎42'27					
				conjunction	770 Aug 21 j 01:16	0°♎45'33	1°01'44
conjunction	765 Feb 25 j 15:32	10°♎52'58	-1°-5'-31	minimum elong	770 Aug 21 j 01:14	0°♎45'32	1°01'44

morning rise	770 Sep 03 j 02:47	3°♏35'12		min. Earth dist.	776 Aug 17 j 08:08	28°≈04'33	3.97536 AU
retrograde	771 Jan 01 j 09:05	20°♏25'10		direct	776 Oct 15 j 05:54	23°≈08'12	
opposition	771 Mar 02 j 18:58	15°♏31'11	1°38'20		776 Dec 21 j 07:58	0°♏	
min. Earth dist.	771 Mar 03 j 12:32	15°♏25'30	4.44553 AU	evening set	777 Feb 17 j 11:06	12°♏45'45	
direct	771 May 04 j 06:41	10°♏28'28					
evening set	771 Sep 08 j 00:26	28°♏02'16		conjunction	777 Mar 02 j 16:18	15°♏57'10	-1°-6'-56
	771 Sep 17 j 01:52	0°♏		minimum elong	777 Mar 02 j 16:17	15°♏57'09	1°06'57
max. Earth dist.	771 Sep 19 j 08:30	0°♏29'42	6.44280 AU	max. Earth dist.	777 Mar 03 j 20:46	16°♏14'21	5.95750 AU
				morning rise	777 Mar 16 j 00:32	19°♏10'15	
conjunction	771 Sep 20 j 21:36	0°♏49'52	1°09'26		777 May 03 j 03:16	0°♏	
minimum elong	771 Sep 20 j 21:36	0°♏49'52	1°09'25	retrograde	777 Jul 26 j 13:42	9°♏49'58	
morning rise	771 Oct 03 j 16:08	3°♏36'12		min. Earth dist.	777 Sep 23 j 04:49	4°♏55'35	3.96391 AU
retrograde	772 Jan 31 j 22:45	20°♏25'59		opposition	777 Sep 24 j 07:53	4°♏46'26	-1°-42'-9
opposition	772 Apr 01 j 15:46	15°♏33'51	1°36'13		777 Nov 12 j 07:17	30°♏	
min. Earth dist.	772 Apr 02 j 23:03	15°♏23'51	4.42396 AU	direct	777 Nov 21 j 04:13	29°♏51'46	
direct	772 Jun 03 j 10:44	10°♏32'23			777 Nov 30 j 02:13	0°♏	
evening set	772 Oct 07 j 15:25	28°♏12'57		evening set	778 Mar 26 j 22:24	19°♏29'26	
	772 Oct 15 j 17:59	0°♏					
max. Earth dist.	772 Oct 18 j 08:09	0°♏34'21	6.38635 AU	conjunction	778 Apr 09 j 11:24	22°♏42'56	-1°-2'-7
				minimum elong	778 Apr 09 j 11:26	22°♏42'58	1°02'08
conjunction	772 Oct 20 j 08:09	1°♏00'53	0°58'16	max. Earth dist.	778 Apr 11 j 13:08	23°♏12'35	5.99041 AU
minimum elong	772 Oct 20 j 08:11	1°♏00'54	0°58'16	morning rise	778 Apr 23 j 03:25	25°♏57'48	
morning rise	772 Nov 01 j 22:41	3°♏47'59			778 May 10 j 11:37	0°♏	
	772 Dec 27 j 19:50	15°♏			778 Aug 05 j 08:33	15°♏	
retrograde	773 Mar 03 j 16:53	21°♏05'21		retrograde	778 Sep 01 j 04:21	16°♏10'05	
opposition	773 May 03 j 15:59	16°♏13'28	1°07'34		778 Sep 27 j 19:29	15°♏	
min. Earth dist.	773 May 05 j 03:17	16°♏02'14	4.33572 AU	min. Earth dist.	778 Oct 29 j 07:21	11°♏16'46	4.03775 AU
	773 May 13 j 09:13	15°♏		opposition	778 Oct 30 j 18:04	11°♏04'54	-1°-14'-45
direct	773 Jul 04 j 23:30	11°♏14'10		direct	778 Dec 27 j 21:31	6°♏07'24	
	773 Aug 25 j 10:46	15°♏			779 Mar 16 j 13:23	15°♏	
evening set	773 Nov 07 j 15:37	29°♏16'45		evening set	779 May 03 j 05:14	25°♏20'38	
	773 Nov 10 j 20:15	0°♏					
max. Earth dist.	773 Nov 18 j 08:01	1°♏41'58	6.27311 AU	conjunction	779 May 16 j 23:24	28°♏31'31	0°-33'-44
				minimum elong	779 May 16 j 23:26	28°♏31'32	0°33'46
conjunction	773 Nov 20 j 06:55	2°♏08'37	0°30'13	max. Earth dist.	779 May 19 j 04:19	29°♏02'09	6.09824 AU
minimum elong	773 Nov 20 j 06:56	2°♏08'38	0°30'13		779 May 23 j 08:17	0°♏	
morning rise	773 Dec 02 j 21:27	5°♏00'22		morning rise	779 May 30 j 18:41	1°♏42'44	
retrograde	774 Apr 06 j 14:38	23°♏10'00		retrograde	779 Oct 05 j 15:13	20°♏52'39	
opposition	774 Jun 06 j 11:43	18°♏16'47	0°17'13	min. Earth dist.	779 Dec 02 j 22:54	15°♏58'32	4.16698 AU
min. Earth dist.	774 Jun 07 j 18:07	18°♏07'03	4.20371 AU	opposition	779 Dec 04 j 03:39	15°♏48'46	0°-21'-30
direct	774 Aug 06 j 18:49	13°♏20'02		direct	780 Feb 01 j 08:32	10°♏48'19	
desc. node	774 Oct 01 j 06:25	17°♏50'41		asc. node	780 Apr 27 j 23:10	20°♏52'19	
	774 Dec 01 j 13:11	0°♏		evening set	780 Jun 07 j 02:55	29°♏25'06	
evening set	774 Dec 09 j 22:45	1°♏56'21			780 Jun 09 j 17:28	0°♏	
max. Earth dist.	774 Dec 21 j 07:53	4°♏35'57	6.13380 AU				
				conjunction	780 Jun 20 j 20:14	2°♏29'27	0°05'24
conjunction	774 Dec 22 j 15:59	4°♏54'46	0°-8'-22	minimum elong	780 Jun 20 j 20:15	2°♏29'27	0°05'25
minimum elong	774 Dec 22 j 15:59	4°♏54'46	0°08'23	behind sun begin	780 Jun 20 j 12:13	2°♏24'58	
behind sun begin	774 Dec 22 j 08:54	4°♏50'38		behind sun end	780 Jun 21 j 04:17	2°♏33'56	
behind sun end	774 Dec 22 j 23:03	4°♏58'53		max. Earth dist.	780 Jun 22 j 08:14	2°♏49'38	6.23824 AU
morning rise	775 Jan 04 j 10:01	7°♏53'51		morning rise	780 Jul 04 j 12:52	5°♏33'10	
retrograde	775 May 12 j 15:49	27°♏10'16		retrograde	780 Nov 05 j 18:28	23°♏35'48	
opposition	775 Jul 12 j 07:42	22°♏14'14	0°-42'-11	opposition	781 Jan 04 j 13:04	18°♏35'11	0°35'27
min. Earth dist.	775 Jul 12 j 20:38	22°♏10'01	4.06766 AU	min. Earth dist.	781 Jan 03 j 21:39	18°♏40'21	4.30454 AU
direct	775 Sep 10 j 03:01	17°♏19'50		direct	781 Mar 06 j 01:35	13°♏32'44	
	775 Dec 15 j 21:22	0°≈			781 Jul 03 j 17:57	0°♏	
evening set	776 Jan 13 j 04:56	6°≈32'42		evening set	781 Jul 11 j 02:59	1°♏35'41	
conjunction	776 Jan 26 j 02:51	9°≈38'21	0°-45'-40	conjunction	781 Jul 24 j 14:23	4°♏32'17	0°41'08
minimum elong	776 Jan 26 j 02:48	9°≈38'19	0°45'40	minimum elong	781 Jul 24 j 14:20	4°♏32'16	0°41'08
max. Earth dist.	776 Jan 25 j 22:29	9°≈35'44	6.01337 AU	max. Earth dist.	781 Jul 24 j 23:26	4°♏37'15	6.36291 AU
morning rise	776 Feb 08 j 03:02	12°≈44'523		morning rise	781 Aug 06 j 23:26	7°♏27'35	
	776 Feb 17 j 14:27	15°≈			781 Sep 12 j 06:42	15°♏	
	776 May 04 j 22:46	0°♏		retrograde	781 Dec 06 j 12:15	24°♏39'41	
retrograde	776 Jun 18 j 12:14	3°♏01'36		opposition	782 Feb 04 j 13:48	19°♏42'57	1°18'59
	776 Aug 02 j 09:46	30°♏≈		min. Earth dist.	782 Feb 04 j 16:53	19°♏41'56	4.40772 AU
opposition	776 Aug 17 j 16:42	28°≈01'42	-1°-29'-15		782 Mar 23 j 13:37	15°♏	

direct	782 Apr 07 j 08:41	14°♏39'50		minimum elong	788 Jan 31 j 03:54	14°≈48'59	0°50'00
	782 Apr 22 j 06:22	15°♏		max. Earth dist.	788 Jan 31 j 04:43	14°≈49'28	5.99894 AU
	782 Aug 01 j 08:46	0°♐			788 Jan 31 j 22:12	15°≈	
evening set	782 Aug 12 j 08:14	2°♐20'16		morning rise	788 Feb 13 j 05:11	17°≈57'10	
					788 Apr 07 j 18:37	0°♑	
conjunction	782 Aug 25 j 11:34	5°♐10'37	1°03'56	retrograde	788 Jun 23 j 22:40	8°♑20'11	
minimum elong	782 Aug 25 j 11:33	5°♐10'36	1°03'56	opposition	788 Aug 23 j 01:07	3°♑19'45	-1°-33'-32
max. Earth dist.	782 Aug 24 j 16:56	5°♐00'31	6.43637 AU	min. Earth dist.	788 Aug 22 j 13:16	3°♑23'42	3.96689 AU
morning rise	782 Sep 07 j 12:04	7°♐59'30			788 Sep 19 j 15:19	30°♑≈	
retrograde	783 Jan 05 j 16:11	24°♐47'12		direct	788 Oct 20 j 09:50	28°≈26'17	
opposition	783 Mar 07 j 02:45	19°♐53'30	1°39'39		788 Nov 19 j 23:31	0°♑	
min. Earth dist.	783 Mar 07 j 22:46	19°♐47'02	4.44844 AU	evening set	789 Feb 22 j 17:49	18°♑06'04	
direct	783 May 08 j 16:33	14°♐50'49					
	783 Sep 01 j 02:33	0°♑		conjunction	789 Mar 08 j 00:00	21°♑18'02	-1°-7'-56
evening set	783 Sep 12 j 08:13	2°♑24'04		minimum elong	789 Mar 08 j 00:00	21°♑18'02	1°07'56
max. Earth dist.	783 Sep 23 j 14:32	4°♑50'39	6.44049 AU	max. Earth dist.	789 Mar 09 j 07:35	21°♑37'08	5.95573 AU
				morning rise	789 Mar 21 j 09:34	24°♑31'45	
conjunction	783 Sep 25 j 04:43	5°♑11'26	1°08'58		789 Apr 13 j 17:29	0°♑	
minimum elong	783 Sep 25 j 04:43	5°♑11'27	1°08'58	retrograde	789 Jul 31 j 20:11	15°♑10'52	
morning rise	783 Oct 07 j 22:17	7°♑57'32		min. Earth dist.	789 Sep 28 j 08:43	10°♑17'01	3.96943 AU
retrograde	784 Feb 05 j 06:49	24°♑49'05		opposition	789 Sep 29 j 14:31	10°♑06'54	-1°-40'-33
opposition	784 Apr 06 j 01:42	19°♑57'04	1°33'42	direct	789 Nov 26 j 10:34	5°♑11'54	
min. Earth dist.	784 Apr 07 j 09:43	19°♑46'51	4.41651 AU	evening set	790 Apr 01 j 06:30	24°♑47'14	
direct	784 Jun 07 j 19:19	14°♑55'53					
	784 Sep 29 j 19:42	0°♒		conjunction	790 Apr 14 j 20:37	28°♑00'37	0°-59'-17
evening set	784 Oct 11 j 22:56	2°♒38'15		minimum elong	790 Apr 14 j 20:40	28°♑00'38	0°59'18
max. Earth dist.	784 Oct 22 j 13:26	4°♒58'56	6.37418 AU	max. Earth dist.	790 Apr 17 j 01:36	28°♑32'05	6.00287 AU
					790 Apr 23 j 05:52	0°♒	
conjunction	784 Oct 24 j 15:05	5°♒26'29	0°55'13	morning rise	790 Apr 28 j 13:16	1°♒15'11	
minimum elong	784 Oct 24 j 15:07	5°♒26'30	0°55'12		790 Jul 02 j 10:49	15°♒	
morning rise	784 Nov 06 j 05:30	8°♒13'59		retrograde	790 Sep 06 j 05:56	21°♒19'30	
	784 Dec 08 j 01:04	15°♒		min. Earth dist.	790 Nov 03 j 08:14	16°♒25'59	4.05559 AU
retrograde	785 Mar 08 j 08:56	25°♒37'06		opposition	790 Nov 04 j 18:28	16°♒14'18	-1°-8'-15
opposition	785 May 08 j 07:01	20°♒45'08	1°01'34		790 Nov 13 j 22:34	15°♒♒	
min. Earth dist.	785 May 09 j 19:19	20°♒33'34	4.31933 AU	direct	791 Jan 02 j 01:35	11°♒16'21	
direct	785 Jul 09 j 12:52	15°♒46'06			791 Feb 19 j 18:24	15°♒	
	785 Oct 25 j 15:10	0°♓			791 May 06 j 15:56	0°♒	
evening set	785 Nov 12 j 02:03	3°♓52'51		evening set	791 May 08 j 09:22	0°♒23'43	
max. Earth dist.	785 Nov 22 j 19:35	6°♓19'19	6.25390 AU				
				conjunction	791 May 22 j 03:40	3°♒33'42	0°-28'-31
conjunction	785 Nov 24 j 17:32	6°♓45'33	0°25'12	minimum elong	791 May 22 j 03:42	3°♒33'43	0°28'33
minimum elong	785 Nov 24 j 17:34	6°♓45'34	0°25'13	max. Earth dist.	791 May 24 j 07:48	4°♒03'43	6.11976 AU
morning rise	785 Dec 07 j 08:21	9°♓38'12		morning rise	791 Jun 04 j 22:58	6°♒43'53	
retrograde	786 Apr 11 j 11:36	27°♓56'46		retrograde	791 Oct 10 j 04:59	25°♒42'51	
opposition	786 Jun 11 j 09:23	23°♓03'13	0°08'58	opposition	791 Dec 08 j 19:40	20°♒39'16	0°-13'-15
min. Earth dist.	786 Jun 12 j 13:28	22°♓54'13	4.18303 AU	min. Earth dist.	791 Dec 07 j 15:27	20°♒48'50	4.18995 AU
desc. node	786 Aug 10 j 18:58	18°♓06'52		direct	792 Feb 06 j 04:16	15°♒38'27	
direct	786 Aug 11 j 10:48	18°♓06'50		asc. node	792 Mar 07 j 19:53	17°♒07'20	
	786 Nov 14 j 09:23	0°♓			792 May 24 j 00:14	0°♓	
evening set	786 Dec 14 j 15:20	6°♓48'47		evening set	792 Jun 11 j 23:56	4°♓08'48	
max. Earth dist.	786 Dec 26 j 04:00	9°♓31'10	6.11342 AU				
				conjunction	792 Jun 25 j 16:34	7°♓11'53	0°10'51
conjunction	786 Dec 27 j 09:02	9°♓48'15	0°-14'-1	minimum elong	792 Jun 25 j 16:33	7°♓11'53	0°10'51
minimum elong	786 Dec 27 j 09:00	9°♓48'15	0°14'03	behind sun begin	792 Jun 25 j 10:19	7°♓08'25	
behind sun begin	786 Dec 27 j 04:49	9°♓45'48		behind sun end	792 Jun 25 j 22:47	7°♓15'20	
behind sun end	786 Dec 27 j 13:11	9°♓50'42		max. Earth dist.	792 Jun 27 j 00:33	7°♓29'44	6.26078 AU
morning rise	787 Jan 09 j 03:47	12°♓48'32		morning rise	792 Jul 09 j 08:15	10°♓14'13	
	787 Apr 09 j 12:50	0°≈		retrograde	792 Nov 10 j 03:25	28°♓07'23	
retrograde	787 May 17 j 22:48	2°≈15'00		opposition	793 Jan 08 j 22:23	23°♓07'18	0°42'34
	787 Jun 25 j 14:27	30°♒♓		min. Earth dist.	793 Jan 08 j 10:20	23°♓11'20	4.32467 AU
opposition	787 Jul 17 j 12:27	27°♓18'27	0°-50'-9	direct	793 Mar 10 j 16:35	18°♓04'40	
min. Earth dist.	787 Jul 17 j 23:12	27°♓14'56	4.04934 AU		793 Jun 16 j 22:39	0°♒	
direct	787 Sep 15 j 04:06	22°♓24'14		evening set	793 Jul 15 j 16:28	6°♒02'41	
	787 Nov 26 j 01:16	0°≈					
evening set	788 Jan 18 j 05:02	11°≈42'18		conjunction	793 Jul 29 j 02:48	8°♒58'11	0°45'12
				minimum elong	793 Jul 29 j 02:45	8°♒58'10	0°45'12
conjunction	788 Jan 31 j 03:57	14°≈49'01	0°-49'-59	max. Earth dist.	793 Jul 29 j 07:40	9°♒00'50	6.37891 AU

morning rise	793 Aug 11 j 10:38	11°Ω52'20			799 Aug 11 j 20:33	30°RΞ	
	793 Aug 26 j 01:32	15°Ω		direct	799 Sep 20 j 05:45	27°Ξ35'49	
retrograde	793 Dec 10 j 15:41	28°Ω58'51			799 Oct 28 j 22:48	0°≈	
opposition	794 Feb 08 j 19:24	24°Ω02'34	1°23'18		800 Jan 15 j 01:02	15°≈	
min. Earth dist.	794 Feb 09 j 00:45	24°Ω00'49	4.41875 AU	evening set	800 Jan 23 j 08:13	16°≈58'32	
direct	794 Apr 11 j 17:03	18°Ω59'26					
	794 Jul 15 j 15:27	0°η		conjunction	800 Feb 05 j 07:54	20°≈06'07	0°-53'-56
evening set	794 Aug 16 j 16:10	6°η37'37		minimum elong	800 Feb 05 j 07:52	20°≈06'06	0°53'58
				max. Earth dist.	800 Feb 05 j 12:48	20°≈09'04	5.98770 AU
conjunction	794 Aug 29 j 18:28	9°η27'20	1°05'43	morning rise	800 Feb 18 j 10:22	23°≈15'17	
minimum elong	794 Aug 29 j 18:26	9°η27'19	1°05'43		800 Mar 18 j 10:55	0°κ	
max. Earth dist.	794 Aug 28 j 20:36	9°η15'30	6.44151 AU	retrograde	800 Jun 29 j 08:35	13°κ43'21	
morning rise	794 Sep 11 j 17:47	12°η15'35		opposition	800 Aug 28 j 10:47	8°κ42'17	-1°-37'-2
retrograde	795 Jan 09 j 20:47	29°η02'18		min. Earth dist.	800 Aug 27 j 19:01	8°κ47'33	3.96283 AU
opposition	795 Mar 11 j 08:24	24°η08'58	1°40'25	direct	800 Oct 25 j 16:12	3°κ48'43	
min. Earth dist.	795 Mar 12 j 07:05	24°η01'40	4.44746 AU	evening set	801 Feb 28 j 01:29	23°κ28'54	
direct	795 May 12 j 23:51	19°η06'29					
	795 Aug 15 j 11:29	0°Δ		conjunction	801 Mar 13 j 08:58	26°κ41'16	-1°-8'-20
evening set	795 Sep 16 j 14:01	6°Δ40'30		minimum elong	801 Mar 13 j 08:58	26°κ41'16	1°08'21
max. Earth dist.	795 Sep 27 j 15:24	9°Δ04'48	6.43325 AU	max. Earth dist.	801 Mar 14 j 22:14	27°κ03'45	5.95906 AU
				morning rise	801 Mar 26 j 19:28	29°κ55'15	
conjunction	795 Sep 29 j 09:40	9°Δ27'51	1°08'09		801 Mar 27 j 03:24	0°γ	
minimum elong	795 Sep 29 j 09:41	9°Δ27'52	1°08'09	retrograde	801 Aug 06 j 04:15	20°γ31'21	
morning rise	795 Oct 12 j 02:47	12°Δ14'02		opposition	801 Oct 04 j 20:39	15°γ27'01	-1°-38'-4
retrograde	796 Feb 09 j 16:18	29°Δ09'13		min. Earth dist.	801 Oct 03 j 14:02	15°γ37'25	3.97965 AU
opposition	796 Apr 10 j 10:56	24°Δ17'19	1°30'44	direct	801 Dec 01 j 18:03	10°γ31'40	
min. Earth dist.	796 Apr 11 j 20:41	24°Δ06'32	4.40351 AU	evening set	802 Apr 06 j 13:58	0°δ03'03	
direct	796 Jun 12 j 03:39	19°Δ16'22			802 Apr 06 j 08:47	0°δ	
	796 Sep 12 j 23:07	0°ℓ					
evening set	796 Oct 16 j 05:56	7°ℓ02'30		conjunction	802 Apr 20 j 04:50	3°δ16'04	0°-56'00
max. Earth dist.	796 Oct 26 j 20:52	9°ℓ23'58	6.35646 AU	minimum elong	802 Apr 20 j 04:52	3°δ16'05	0°56'00
				max. Earth dist.	802 Apr 22 j 10:55	3°δ48'02	6.01868 AU
conjunction	796 Oct 28 j 22:03	9°ℓ51'22	0°51'53	morning rise	802 May 03 j 22:13	6°δ30'11	
minimum elong	796 Oct 28 j 22:05	9°ℓ51'23	0°51'53		802 Jun 10 j 20:04	15°δ	
morning rise	796 Nov 10 j 12:14	12°ℓ39'33		retrograde	802 Sep 11 j 03:09	26°δ25'17	
	796 Nov 21 j 03:51	15°ℓ		min. Earth dist.	802 Nov 08 j 05:53	21°δ32'02	4.07522 AU
	797 Mar 02 j 10:39	0°ξ		opposition	802 Nov 09 j 16:41	21°δ20'10	-1°-1'-18
retrograde	797 Mar 13 j 00:24	0°ξ10'27		direct	803 Jan 07 j 01:44	16°δ21'48	
	797 Mar 23 j 14:17	30°Rℓ			803 Apr 19 j 08:48	0°Π	
opposition	797 May 12 j 22:56	25°ℓ18'24	0°55'12	evening set	803 May 13 j 12:03	5°Π23'14	
min. Earth dist.	797 May 14 j 10:28	25°ℓ07'06	4.29799 AU				
direct	797 Jul 14 j 00:34	20°ℓ19'50		conjunction	803 May 27 j 06:22	8°Π32'16	0°-23'-9
	797 Oct 07 j 21:13	0°ξ		minimum elong	803 May 27 j 06:24	8°Π32'17	0°23'09
evening set	797 Nov 16 j 13:56	8°ξ32'28		max. Earth dist.	803 May 29 j 07:22	9°Π00'21	6.14152 AU
max. Earth dist.	797 Nov 27 j 08:34	11°ξ00'24	6.23072 AU	morning rise	803 Jun 10 j 01:29	11°Π41'22	
					803 Sep 27 j 08:52	0°ϑ	
conjunction	797 Nov 29 j 05:30	11°ξ26'11	0°20'00	retrograde	803 Oct 14 j 19:16	0°ϑ29'50	
minimum elong	797 Nov 29 j 05:31	11°ξ26'12	0°20'00		803 Nov 01 j 01:57	30°RΠ	
morning rise	797 Dec 11 j 20:51	14°ξ20'01		min. Earth dist.	803 Dec 12 j 08:48	25°Π35'15	4.21162 AU
	798 Mar 04 j 02:55	0°Ξ		opposition	803 Dec 13 j 10:11	25°Π26'40	0°-5'00
retrograde	798 Apr 16 j 13:43	2°Ξ49'14		asc. node	804 Jan 16 j 12:44	21°Π28'44	
	798 May 30 j 16:11	30°Rξ		direct	804 Feb 11 j 00:26	20°Π25'30	
opposition	798 Jun 16 j 09:48	27°ξ55'22	0°00'33		804 May 05 j 17:25	0°ϑ	
min. Earth dist.	798 Jun 17 j 12:06	27°ξ46'55	4.15960 AU	evening set	804 Jun 16 j 19:32	8°ϑ50'13	
desc. node	798 Jun 20 j 01:48	27°ξ27'07					
direct	798 Aug 16 j 07:02	22°ξ59'23		conjunction	804 Jun 30 j 11:37	11°ϑ52'12	0°16'13
	798 Oct 25 j 07:54	0°Ξ		minimum elong	804 Jun 30 j 11:36	11°ϑ52'11	0°16'13
evening set	798 Dec 19 j 10:32	11°Ξ47'52		max. Earth dist.	804 Jul 01 j 16:46	12°ϑ08'23	6.28075 AU
max. Earth dist.	798 Dec 31 j 04:37	14°Ξ34'10	6.09207 AU	morning rise	804 Jul 14 j 02:18	14°ϑ53'16	
					804 Oct 03 j 23:33	0°Ω	
conjunction	799 Jan 01 j 04:58	14°Ξ48'34	0°-19'-40	retrograde	804 Nov 14 j 09:55	2°Ω38'13	
minimum elong	799 Jan 01 j 04:57	14°Ξ48'33	0°19'41		804 Dec 25 j 20:19	30°Rϑ	
morning rise	799 Jan 14 j 00:29	17°Ξ50'07		opposition	805 Jan 13 j 07:08	27°ϑ38'41	0°49'26
	799 Mar 11 j 11:32	0°≈		min. Earth dist.	805 Jan 12 j 20:47	27°ϑ42'08	4.34158 AU
retrograde	799 May 23 j 08:04	7°≈26'43		direct	805 Mar 15 j 04:54	22°ϑ35'55	
opposition	799 Jul 22 j 19:45	2°≈29'43	0°-57'-52		805 May 28 j 19:11	0°Ω	
min. Earth dist.	799 Jul 23 j 02:52	2°≈27'23	4.03232 AU	evening set	805 Jul 20 j 05:45	10°Ω30'10	

conjunction	805 Aug 02 j 14:53	13°♏24'40	0°49'02		810 Sep 26 j 22:02	0°♎	
minimum elong	805 Aug 02 j 14:50	13°♏24'39	0°49'02	evening set	810 Dec 24 j 06:17	16°♎47'14	
max. Earth dist.	805 Aug 02 j 14:37	13°♏24'32	6.39150 AU	max. Earth dist.	811 Jan 05 j 03:52	19°♎36'14	6.07598 AU
	805 Aug 09 j 21:59	15°♏					
morning rise	805 Aug 15 j 21:34	16°♏17'49		conjunction	811 Jan 06 j 01:07	19°♎48'50	0°-25'-11
	805 Oct 28 j 15:05	0°♐		minimum elong	811 Jan 06 j 01:06	19°♎48'49	0°25'12
retrograde	805 Dec 14 j 21:44	3°♐20'01		morning rise	811 Jan 18 j 21:34	22°♎51'28	
	806 Jan 31 j 14:38	30°♐♏			811 Feb 19 j 05:44	0°♐	
opposition	806 Feb 13 j 01:48	28°♏24'13	1°27'13	retrograde	811 May 28 j 14:43	12°♐36'04	
min. Earth dist.	806 Feb 13 j 10:47	28°♏21'18	4.42642 AU	opposition	811 Jul 28 j 02:03	7°♐38'27	-1°-5'-4
direct	806 Apr 16 j 03:53	23°♏21'05		min. Earth dist.	811 Jul 28 j 05:11	7°♐37'26	4.02079 AU
	806 Jun 26 j 05:10	0°♐		direct	811 Sep 25 j 07:32	2°♐44'42	
evening set	806 Aug 21 j 01:02	10°♐57'58			811 Dec 28 j 11:34	15°♐	
max. Earth dist.	806 Sep 02 j 00:44	13°♐33'19	6.44353 AU	evening set	812 Jan 28 j 09:45	22°♐10'00	
conjunction	806 Sep 03 j 02:22	13°♐47'12	1°07'11	conjunction	812 Feb 10 j 10:29	25°♐18'16	0°-57'-24
minimum elong	806 Sep 03 j 02:21	13°♐47'12	1°07'11	minimum elong	812 Feb 10 j 10:27	25°♐18'15	0°57'25
morning rise	806 Sep 16 j 00:41	16°♐34'59		max. Earth dist.	812 Feb 10 j 21:45	25°♐25'04	5.98182 AU
	806 Nov 27 j 10:36	0°♑		morning rise	812 Feb 23 j 13:47	28°♐28'06	
retrograde	807 Jan 14 j 02:24	3°♑21'36			812 Feb 29 j 23:57	0°♑	
	807 Mar 03 j 13:56	30°♑♐		retrograde	812 Jul 04 j 17:07	18°♑58'49	
opposition	807 Mar 15 j 15:39	28°♐28'30	1°40'40	opposition	812 Sep 02 j 17:26	13°♑57'14	-1°-39'-37
min. Earth dist.	807 Mar 16 j 15:56	28°♐20'41	4.44403 AU	min. Earth dist.	812 Sep 01 j 23:47	14°♑03'08	3.96346 AU
direct	807 May 17 j 07:30	23°♐26'08		direct	812 Oct 30 j 21:44	9°♑03'32	
	807 Jul 27 j 01:20	0°♑		evening set	813 Mar 05 j 06:20	28°♑42'34	
evening set	807 Sep 20 j 21:15	11°♑01'28			813 Mar 10 j 15:26	0°♒	
max. Earth dist.	807 Oct 01 j 21:17	13°♑25'21	6.42458 AU				
conjunction	807 Oct 03 j 16:19	13°♑48'54	1°06'56	conjunction	813 Mar 18 j 14:43	1°♒55'04	-1°-8'-10
minimum elong	807 Oct 03 j 16:20	13°♑48'54	1°06'56	minimum elong	813 Mar 18 j 14:44	1°♒55'05	1°08'11
morning rise	807 Oct 16 j 08:45	16°♑35'10		max. Earth dist.	813 Mar 20 j 06:42	2°♒19'07	5.96579 AU
	807 Dec 26 j 17:51	0°♒		morning rise	813 Apr 01 j 02:22	5°♒09'13	
retrograde	808 Feb 14 j 03:06	3°♒34'21		retrograde	813 Aug 11 j 05:30	25°♒40'45	
	808 Apr 04 j 16:08	30°♒♑		opposition	813 Oct 09 j 22:05	20°♒36'11	-1°-34'-52
opposition	808 Apr 14 j 22:27	28°♑42'33	1°27'11	min. Earth dist.	813 Oct 08 j 13:35	20°♒47'14	3.99189 AU
min. Earth dist.	808 Apr 16 j 09:18	28°♑31'27	4.39014 AU	direct	813 Dec 06 j 19:25	15°♒40'26	
direct	808 Jun 16 j 14:25	23°♑41'56			814 Mar 20 j 10:17	0°♓	
	808 Aug 24 j 03:04	0°♒		evening set	814 Apr 11 j 17:29	5°♓07'39	
evening set	808 Oct 20 j 14:46	11°♒31'36					
max. Earth dist.	808 Oct 31 j 03:59	13°♒52'45	6.33942 AU	conjunction	814 Apr 25 j 09:02	8°♓20'14	0°-52'-22
				minimum elong	814 Apr 25 j 09:05	8°♓20'15	0°52'24
conjunction	808 Nov 02 j 06:31	14°♒21'02	0°48'10	max. Earth dist.	814 Apr 27 j 14:23	8°♓51'38	6.03513 AU
minimum elong	808 Nov 02 j 06:33	14°♒21'03	0°48'11	morning rise	814 May 09 j 02:58	11°♓33'48	
	808 Nov 05 j 04:10	15°♒			814 May 24 j 00:56	15°♓	
morning rise	808 Nov 14 j 20:51	17°♒09'55		retrograde	814 Aug 18 j 03:03	0°♔	
	809 Jan 18 j 22:23	0°♓			814 Sep 15 j 21:20	1°♔19'59	
retrograde	809 Mar 17 j 18:40	4°♓48'24		min. Earth dist.	814 Oct 14 j 09:13	30°♓♒	
opposition	809 May 17 j 17:01	29°♒56'10	0°48'21	opposition	814 Nov 13 j 01:51	26°♓26'16	4.09385 AU
	809 May 17 j 05:01	30°♒♒		direct	814 Nov 14 j 10:54	26°♓15'00	0°-54'-10
min. Earth dist.	809 May 19 j 03:40	29°♒45'07	4.27842 AU		815 Jan 12 j 00:13	21°♓16'12	
direct	809 Jul 18 j 15:24	24°♒57'57		evening set	815 Mar 31 j 15:44	0°♔	
	809 Sep 16 j 05:47	0°♓			815 May 18 j 10:37	10°♔12'25	
evening set	809 Nov 21 j 03:14	13°♓15'39		conjunction	815 Jun 01 j 05:06	13°♔20'38	0°-17'-48
max. Earth dist.	809 Dec 02 j 01:46	15°♓46'27	6.21058 AU	minimum elong	815 Jun 01 j 05:07	13°♔20'38	0°17'49
				max. Earth dist.	815 Jun 03 j 04:49	13°♔47'50	6.16091 AU
conjunction	809 Dec 03 j 19:11	16°♓10'19	0°14'36	morning rise	815 Jun 14 j 23:50	16°♔28'44	
minimum elong	809 Dec 03 j 19:12	16°♓10'20	0°14'35		815 Aug 21 j 06:34	0°♕	
behind sun begin	809 Dec 03 j 15:33	16°♓08'14		retrograde	815 Oct 19 j 05:45	5°♕08'01	
behind sun end	809 Dec 03 j 22:51	16°♓12'26		asc. node	815 Nov 27 j 11:47	2°♕42'27	
morning rise	809 Dec 16 j 10:49	19°♓05'09		opposition	815 Dec 17 j 21:29	0°♕05'23	0°02'59
	810 Feb 05 j 20:46	0°♕		min. Earth dist.	815 Dec 16 j 21:33	0°♕13'28	4.22999 AU
retrograde	810 Apr 21 j 15:33	7°♕43'41			815 Dec 18 j 13:27	30°♒♔	
desc. node	810 Apr 29 j 06:38	7°♕38'13		direct	816 Feb 15 j 15:02	25°♔04'01	
opposition	810 Jun 21 j 10:59	2°♕49'30	0°-7'-58		816 Apr 14 j 01:08	0°♕	
min. Earth dist.	810 Jun 22 j 10:47	2°♕41'50	4.14064 AU	evening set	816 Jun 21 j 12:32	13°♕24'32	
	810 Jul 14 j 20:04	30°♒♓					
direct	810 Aug 21 j 03:22	27°♓53'55		conjunction	816 Jul 05 j 03:44	16°♕25'31	0°21'20

minimum elong	816 Jul 05 j 03:42	16° \mathfrak{D} 25'30	0°21'20	conjunction	821 Dec 08 j 07:57	20° \mathfrak{Z} 53'43	0°09'07
max. Earth dist.	816 Jul 06 j 03:16	16° \mathfrak{D} 38'33	6.29671 AU	minimum elong	821 Dec 08 j 07:57	20° \mathfrak{Z} 53'43	0°09'07
morning rise	816 Jul 18 j 17:38	19° \mathfrak{D} 25'34		behind sun begin	821 Dec 08 j 01:09	20° \mathfrak{Z} 49'48	
	816 Sep 08 j 18:43	0° \mathfrak{Q}		behind sun end	821 Dec 08 j 14:46	20° \mathfrak{Z} 57'39	
retrograde	816 Nov 18 j 17:09	7° \mathfrak{Q} 04'04		morning rise	821 Dec 21 j 00:12	23° \mathfrak{Z} 49'31	
opposition	817 Jan 17 j 14:15	2° \mathfrak{Q} 05'08	0°55'50		822 Jan 17 j 14:55	0° \mathfrak{Z}	
min. Earth dist.	817 Jan 17 j 07:30	2° \mathfrak{Q} 07'22	4.35415 AU	desc. node	822 Mar 09 j 01:05	9° \mathfrak{Z} 06'27	
	817 Feb 02 j 19:43	30° \mathfrak{R} \mathfrak{E}		retrograde	822 Apr 26 j 16:04	12° \mathfrak{Z} 36'36	
direct	817 Mar 19 j 17:05	27° \mathfrak{E} 02'14		opposition	822 Jun 26 j 11:06	7° \mathfrak{Z} 41'56	0°-16'-25
	817 May 03 j 22:28	0° \mathfrak{Q}		min. Earth dist.	822 Jun 27 j 07:53	7° \mathfrak{Z} 35'13	4.12360 AU
evening set	817 Jul 24 j 17:27	14° \mathfrak{Q} 54'15		direct	822 Aug 25 j 22:27	2° \mathfrak{Z} 46'36	
	817 Jul 25 j 04:05	15° \mathfrak{Q}		evening set	822 Dec 29 j 00:43	21° \mathfrak{Z} 44'13	
conjunction	817 Aug 07 j 01:43	17° \mathfrak{Q} 48'03	0°52'31	conjunction	823 Jan 10 j 20:19	24° \mathfrak{Z} 46'44	0°-30'-29
minimum elong	817 Aug 07 j 01:41	17° \mathfrak{Q} 48'02	0°52'30	minimum elong	823 Jan 10 j 20:17	24° \mathfrak{Z} 46'42	0°30'30
max. Earth dist.	817 Aug 06 j 22:44	17° \mathfrak{Q} 46'26	6.39983 AU	max. Earth dist.	823 Jan 10 j 04:09	24° \mathfrak{Z} 37'07	6.06108 AU
morning rise	817 Aug 20 j 07:09	20° \mathfrak{Q} 40'24		morning rise	823 Jan 23 j 17:23	27° \mathfrak{Z} 50'18	
	817 Oct 05 j 10:08	0° \mathfrak{P}			823 Feb 01 j 22:20	0° \mathfrak{Z}	
retrograde	817 Dec 19 j 01:42	7° \mathfrak{P} 39'47			823 Apr 21 j 16:18	15° \mathfrak{Z}	
opposition	818 Feb 17 j 07:45	2° \mathfrak{P} 44'29	1°30'35	retrograde	823 Jun 02 j 21:21	17° \mathfrak{Z} 42'27	
min. Earth dist.	818 Feb 17 j 18:10	2° \mathfrak{P} 41'06	4.43036 AU		823 Jul 15 j 09:03	15° \mathfrak{R} \mathfrak{Z}	
	818 Mar 11 j 15:15	30° \mathfrak{R} \mathfrak{Q}		opposition	823 Aug 02 j 06:36	12° \mathfrak{Z} 44'19	-1°-11'-44
direct	818 Apr 20 j 11:15	27° \mathfrak{Q} 41'28		min. Earth dist.	823 Aug 02 j 07:43	12° \mathfrak{Z} 43'56	4.00949 AU
	818 May 30 j 16:19	0° \mathfrak{P}		direct	823 Sep 30 j 08:27	7° \mathfrak{Z} 50'40	
evening set	818 Aug 25 j 09:27	15° \mathfrak{P} 18'09			823 Dec 08 j 10:20	15° \mathfrak{Z}	
max. Earth dist.	818 Sep 06 j 05:00	17° \mathfrak{P} 51'26	6.44280 AU	evening set	824 Feb 02 j 10:29	27° \mathfrak{Z} 18'49	
					824 Feb 13 j 14:00	0° \mathfrak{K}	
conjunction	818 Sep 07 j 09:43	18° \mathfrak{P} 07'01	1°08'14	conjunction	824 Feb 15 j 12:03	0° \mathfrak{K} 27'48	-1°00'-25
minimum elong	818 Sep 07 j 09:42	18° \mathfrak{P} 07'00	1°08'14	minimum elong	824 Feb 15 j 12:01	0° \mathfrak{K} 27'47	1°00'25
morning rise	818 Sep 20 j 07:09	20° \mathfrak{P} 54'28		max. Earth dist.	824 Feb 16 j 02:15	0° \mathfrak{K} 36'22	5.97499 AU
	818 Nov 04 j 07:07	0° \mathfrak{L}		morning rise	824 Feb 28 j 16:35	3° \mathfrak{K} 38'26	
retrograde	819 Jan 18 j 10:12	7° \mathfrak{L} 41'56		retrograde	824 Jul 09 j 22:40	24° \mathfrak{K} 12'01	
opposition	819 Mar 19 j 23:37	2° \mathfrak{L} 49'10	1°40'21	opposition	824 Sep 07 j 22:18	19° \mathfrak{K} 09'54	-1°-41'-26
min. Earth dist.	819 Mar 21 j 02:19	2° \mathfrak{L} 40'36	4.43884 AU	min. Earth dist.	824 Sep 07 j 01:25	19° \mathfrak{K} 16'55	3.96216 AU
	819 Apr 12 j 08:20	30° \mathfrak{R} \mathfrak{P}		direct	824 Nov 04 j 23:40	14° \mathfrak{K} 16'00	
direct	819 May 21 j 17:27	27° \mathfrak{P} 47'02			825 Feb 21 j 20:08	0° \mathfrak{Y}	
	819 Jun 30 j 03:42	0° \mathfrak{L}		evening set	825 Mar 10 j 10:43	3° \mathfrak{Y} 55'00	
evening set	819 Sep 25 j 04:37	15° \mathfrak{L} 23'57					
max. Earth dist.	819 Oct 06 j 02:03	17° \mathfrak{L} 46'49	6.41525 AU	conjunction	825 Mar 23 j 20:14	7° \mathfrak{Y} 07'48	-1°-7'-29
conjunction	819 Oct 07 j 23:05	18° \mathfrak{L} 11'30	1°05'19	minimum elong	825 Mar 23 j 20:15	7° \mathfrak{Y} 07'49	1°07'30
minimum elong	819 Oct 07 j 23:06	18° \mathfrak{L} 11'31	1°05'18	max. Earth dist.	825 Mar 25 j 14:37	7° \mathfrak{Y} 33'16	5.96997 AU
morning rise	819 Oct 20 j 15:03	20° \mathfrak{L} 57'58		morning rise	825 Apr 06 j 08:54	10° \mathfrak{Y} 22'12	
	819 Dec 03 j 16:56	0° \mathfrak{M}			825 Jul 24 j 15:05	0° \mathfrak{X}	
retrograde	820 Feb 18 j 13:44	8° \mathfrak{M} 01'19		retrograde	825 Aug 16 j 07:39	0° \mathfrak{X} 50'17	
opposition	820 Apr 19 j 10:27	3° \mathfrak{M} 09'31	1°23'04		825 Sep 07 j 19:39	30° \mathfrak{R} \mathfrak{Y}	
min. Earth dist.	820 Apr 20 j 20:59	2° \mathfrak{M} 58'31	4.37729 AU	opposition	825 Oct 14 j 23:20	25° \mathfrak{Y} 45'25	-1°-31'00
	820 May 16 j 07:50	30° \mathfrak{R} \mathfrak{L}		min. Earth dist.	825 Oct 13 j 14:48	25° \mathfrak{Y} 56'30	4.00091 AU
direct	820 Jun 21 j 00:23	28° \mathfrak{L} 09'10		direct	825 Dec 11 j 22:17	20° \mathfrak{Y} 49'14	
	820 Jul 26 j 15:54	0° \mathfrak{M}			826 Mar 01 j 12:12	0° \mathfrak{X}	
	820 Oct 20 j 07:46	15° \mathfrak{M}		evening set	826 Apr 16 j 21:35	10° \mathfrak{X} 13'32	
evening set	820 Oct 24 j 23:36	16° \mathfrak{M} 01'58					
max. Earth dist.	820 Nov 04 j 14:39	18° \mathfrak{M} 24'39	6.32410 AU	conjunction	826 Apr 30 j 14:01	13° \mathfrak{X} 25'53	0°-48'-21
conjunction	820 Nov 06 j 15:16	18° \mathfrak{M} 51'57	0°44'10	minimum elong	826 Apr 30 j 14:04	13° \mathfrak{X} 25'55	0°48'22
minimum elong	820 Nov 06 j 15:18	18° \mathfrak{M} 51'58	0°44'10	max. Earth dist.	826 May 02 j 20:48	13° \mathfrak{X} 58'01	6.04822 AU
morning rise	820 Nov 19 j 05:25	21° \mathfrak{M} 41'26			826 May 07 j 06:36	15° \mathfrak{X}	
	820 Dec 28 j 08:24	0° \mathfrak{Z}		morning rise	826 May 14 j 08:22	16° \mathfrak{X} 39'03	
retrograde	821 Mar 22 j 12:40	9° \mathfrak{Z} 26'46			826 Jul 17 j 00:37	0° \mathfrak{H}	
opposition	821 May 22 j 11:00	4° \mathfrak{Z} 34'23	0°41'10	retrograde	826 Sep 20 j 16:47	6° \mathfrak{H} 17'17	
min. Earth dist.	821 May 23 j 21:02	4° \mathfrak{Z} 23'32	4.26132 AU	min. Earth dist.	826 Nov 17 j 21:16	1° \mathfrak{H} 23'36	4.10951 AU
	821 Jul 07 j 07:32	30° \mathfrak{R} \mathfrak{M}		opposition	826 Nov 19 j 05:51	1° \mathfrak{H} 12'31	0°-46'-37
direct	821 Jul 23 j 06:37	29° \mathfrak{M} 36'32			826 Nov 28 j 05:03	30° \mathfrak{R} \mathfrak{X}	
	821 Aug 08 j 04:21	0° \mathfrak{Z}		direct	827 Jan 16 j 21:44	26° \mathfrak{X} 13'20	
evening set	821 Nov 25 j 15:55	17° \mathfrak{Z} 58'16			827 Mar 07 j 10:33	0° \mathfrak{H}	
max. Earth dist.	821 Dec 06 j 15:28	20° \mathfrak{Z} 30'17	6.19295 AU	evening set	827 May 23 j 11:14	15° \mathfrak{H} 05'25	
				conjunction	827 Jun 06 j 05:29	18° \mathfrak{H} 12'49	0°-12'-15

minimum elong	827 Jun 06 j 05:30	18° Π 12'50	0°12'16	opposition	833 May 27 j 02:06	9° \mathcal{Z} 04'38	0°33'57
behind sun begin	827 Jun 06 j 00:05	18° Π 09'46		min. Earth dist.	833 May 28 j 10:31	8° \mathcal{Z} 54'17	4.24858 AU
behind sun end	827 Jun 06 j 10:55	18° Π 15'54		direct	833 Jul 27 j 17:41	4° \mathcal{Z} 07'05	
max. Earth dist.	827 Jun 08 j 01:14	18° Π 37'41	6.17777 AU	evening set	833 Nov 30 j 01:15	22° \mathcal{Z} 31'41	
morning rise	827 Jun 20 j 00:04	21° Π 20'03		max. Earth dist.	833 Dec 11 j 04:03	25° \mathcal{Z} 06'02	6.17872 AU
	827 Jul 30 j 11:33	0° \mathcal{E}					
asc. node	827 Oct 07 j 01:15	9° \mathcal{E} 23'27		conjunction	833 Dec 12 j 17:35	25° \mathcal{Z} 27'49	0°03'48
retrograde	827 Oct 23 j 18:34	9° \mathcal{E} 50'56		minimum elong	833 Dec 12 j 17:35	25° \mathcal{Z} 27'50	0°03'49
opposition	827 Dec 22 j 10:39	4° \mathcal{E} 48'44	0°11'07	behind sun begin	833 Dec 12 j 09:41	25° \mathcal{Z} 23'16	
min. Earth dist.	827 Dec 21 j 13:04	4° \mathcal{E} 56'01	4.24654 AU	behind sun end	833 Dec 13 j 01:29	25° \mathcal{Z} 32'24	
	828 Feb 08 j 21:18	30° \mathcal{R} Π		morning rise	833 Dec 25 j 10:05	28° \mathcal{Z} 24'22	
direct	828 Feb 20 j 09:15	29° Π 47'03			834 Jan 01 j 08:37	0° \mathcal{Z}	
	828 Mar 02 j 22:34	0° \mathcal{E}		desc. node	834 Jan 18 j 23:22	3° \mathcal{Z} 56'20	
evening set	828 Jun 26 j 07:29	18° \mathcal{E} 03'49		retrograde	834 May 01 j 13:52	17° \mathcal{Z} 19'03	
				opposition	834 Jul 01 j 07:06	12° \mathcal{Z} 24'02	0°-24'-26
conjunction	828 Jul 09 j 22:05	21° \mathcal{E} 03'53	0°26'27	min. Earth dist.	834 Jul 02 j 03:09	12° \mathcal{Z} 17'34	4.10879 AU
minimum elong	828 Jul 09 j 22:04	21° \mathcal{E} 03'52	0°26'27	direct	834 Aug 30 j 14:54	7° \mathcal{Z} 28'59	
max. Earth dist.	828 Jul 10 j 19:39	21° \mathcal{E} 15'47	6.31195 AU	evening set	835 Jan 02 j 15:21	26° \mathcal{Z} 30'35	
morning rise	828 Jul 23 j 10:49	24° \mathcal{E} 02'50					
	828 Aug 20 j 10:32	0° \mathcal{Q}		conjunction	835 Jan 15 j 11:29	29° \mathcal{Z} 33'58	0°-35'-21
retrograde	828 Nov 23 j 01:28	11° \mathcal{Q} 34'58		minimum elong	835 Jan 15 j 11:27	29° \mathcal{Z} 33'57	0°35'23
opposition	829 Jan 21 j 23:42	6° \mathcal{Q} 36'37	1°02'05	max. Earth dist.	835 Jan 14 j 20:56	29° \mathcal{Z} 25'17	6.04693 AU
min. Earth dist.	829 Jan 21 j 18:27	6° \mathcal{Q} 38'21	4.36725 AU		835 Jan 17 j 07:07	0° \approx	
direct	829 Mar 24 j 05:47	1° \mathcal{Q} 33'43		morning rise	835 Jan 28 j 09:33	2° \approx 38'35	
	829 Jul 08 j 13:47	15° \mathcal{Q}			835 Mar 26 j 05:43	15° \approx	
evening set	829 Jul 29 j 07:13	19° \mathcal{Q} 22'58		retrograde	835 Jun 07 j 21:36	22° \approx 38'17	
				opposition	835 Aug 07 j 06:35	17° \approx 39'39	-1°-17'-38
conjunction	829 Aug 11 j 14:10	22° \mathcal{Q} 15'52	0°55'47	min. Earth dist.	835 Aug 07 j 04:29	17° \approx 40'21	3.99755 AU
minimum elong	829 Aug 11 j 14:08	22° \mathcal{Q} 15'50	0°55'47		835 Aug 28 j 15:26	15° \mathcal{R} \approx	
max. Earth dist.	829 Aug 11 j 06:47	22° \mathcal{Q} 11'51	6.40999 AU	direct	835 Oct 05 j 03:22	12° \approx 46'06	
morning rise	829 Aug 24 j 18:32	25° \mathcal{Q} 07'21			835 Nov 11 j 03:38	15° \approx	
	829 Sep 16 j 21:47	0° \mathcal{P}			836 Jan 28 j 16:07	0° \mathcal{K}	
retrograde	829 Dec 23 j 09:20	12° \mathcal{P} 03'13		evening set	836 Feb 07 j 07:25	2° \mathcal{K} 17'57	
opposition	830 Feb 21 j 15:49	7° \mathcal{P} 08'21	1°33'33				
min. Earth dist.	830 Feb 22 j 04:55	7° \mathcal{P} 04'05	4.43740 AU	conjunction	836 Feb 20 j 10:04	5° \mathcal{K} 27'49	-1°-2'-52
direct	830 Apr 24 j 23:12	2° \mathcal{P} 05'25		minimum elong	836 Feb 20 j 10:02	5° \mathcal{K} 27'47	1°02'54
evening set	830 Aug 29 j 18:48	19° \mathcal{P} 40'28		max. Earth dist.	836 Feb 21 j 03:52	5° \mathcal{K} 38'35	5.96633 AU
				morning rise	836 Mar 04 j 15:39	8° \mathcal{K} 39'20	
conjunction	830 Sep 11 j 18:12	22° \mathcal{P} 28'48	1°08'58	retrograde	836 Jul 15 j 02:27	29° \mathcal{K} 16'57	
minimum elong	830 Sep 11 j 18:11	22° \mathcal{P} 28'48	1°08'58	opposition	836 Sep 12 j 23:41	24° \mathcal{K} 14'24	-1°-42'-28
max. Earth dist.	830 Sep 10 j 12:22	22° \mathcal{P} 12'38	6.44631 AU	min. Earth dist.	836 Sep 12 j 01:41	24° \mathcal{K} 21'49	3.95782 AU
morning rise	830 Sep 24 j 14:29	25° \mathcal{P} 15'43		direct	836 Nov 09 j 23:51	19° \mathcal{K} 20'18	
	830 Oct 17 j 02:00	0° \mathcal{A}			837 Feb 04 j 00:21	0° \mathcal{Y}	
retrograde	831 Jan 22 j 15:54	12° \mathcal{A} 02'33		evening set	837 Mar 15 j 12:38	9° \mathcal{Y} 00'55	
opposition	831 Mar 24 j 08:03	7° \mathcal{A} 09'59	1°39'30				
min. Earth dist.	831 Mar 25 j 10:55	7° \mathcal{A} 01'23	4.43886 AU	conjunction	837 Mar 28 j 23:26	12° \mathcal{Y} 14'17	-1°-6'-19
direct	831 May 26 j 01:47	2° \mathcal{A} 08'07		minimum elong	837 Mar 28 j 23:27	12° \mathcal{Y} 14'17	1°06'19
evening set	831 Sep 29 j 11:29	19° \mathcal{A} 44'40		max. Earth dist.	837 Mar 30 j 21:16	12° \mathcal{Y} 41'46	5.97047 AU
max. Earth dist.	831 Oct 10 j 07:30	22° \mathcal{A} 06'58	6.41174 AU	morning rise	837 Apr 11 j 13:11	15° \mathcal{Y} 29'09	
					837 Jun 18 j 23:17	0° \mathcal{B}	
conjunction	831 Oct 12 j 05:11	22° \mathcal{A} 32'04	1°03'24	retrograde	837 Aug 21 j 08:19	5° \mathcal{B} 55'10	
minimum elong	831 Oct 12 j 05:12	22° \mathcal{A} 32'04	1°03'24	opposition	837 Oct 19 j 22:14	0° \mathcal{B} 50'14	-1°-26'-33
morning rise	831 Oct 24 j 20:36	25° \mathcal{A} 18'28		min. Earth dist.	837 Oct 18 j 12:49	1° \mathcal{B} 01'37	4.00634 AU
	831 Nov 15 j 19:15	0° \mathcal{M}			837 Oct 26 j 02:25	30° \mathcal{R} \mathcal{Y}	
retrograde	832 Feb 23 j 00:28	12° \mathcal{M} 24'11		direct	837 Dec 16 j 20:58	25° \mathcal{Y} 53'43	
opposition	832 Apr 23 j 21:40	7° \mathcal{M} 32'26	1°18'34		838 Feb 05 j 19:25	0° \mathcal{B}	
min. Earth dist.	832 Apr 25 j 09:24	7° \mathcal{M} 21'04	4.37023 AU		838 Apr 20 j 19:55	15° \mathcal{B}	
direct	832 Jun 25 j 11:43	2° \mathcal{M} 32'25		evening set	838 Apr 22 j 00:48	15° \mathcal{B} 16'48	
	832 Oct 04 j 04:09	15° \mathcal{M}					
evening set	832 Oct 29 j 06:09	20° \mathcal{M} 26'19		conjunction	838 May 05 j 17:49	18° \mathcal{B} 29'01	0°-44'-2
max. Earth dist.	832 Nov 08 j 20:15	22° \mathcal{M} 48'50	6.31396 AU	minimum elong	838 May 05 j 17:52	18° \mathcal{B} 29'03	0°44'02
				max. Earth dist.	838 May 07 j 23:26	19° \mathcal{B} 00'22	6.05805 AU
conjunction	832 Nov 10 j 21:33	23° \mathcal{M} 16'35	0°40'01	morning rise	838 May 19 j 12:53	21° \mathcal{B} 41'59	
minimum elong	832 Nov 10 j 21:35	23° \mathcal{M} 16'37	0°40'01		838 Jun 25 j 22:56	0° \mathcal{H}	
morning rise	832 Nov 23 j 11:46	26° \mathcal{M} 06'30		retrograde	838 Sep 25 j 10:55	11° \mathcal{H} 13'34	
	832 Dec 11 j 03:20	0° \mathcal{Z}		min. Earth dist.	838 Nov 22 j 15:58	6° \mathcal{H} 19'55	4.12255 AU
retrograde	833 Mar 27 j 02:35	13° \mathcal{Z} 57'16		opposition	838 Nov 24 j 00:04	6° \mathcal{H} 08'58	0°-38'-51

direct	839 Jan 21 j 19:22	1°♄09'22		conjunction	844 Nov 15 j 06:14	27°♄47'41	0°35'32
evening set	839 May 28 j 11:12	19°♄58'08		minimum elong	844 Nov 15 j 06:16	27°♄47'42	0°35'31
					844 Nov 25 j 00:25	0°♄	
conjunction	839 Jun 11 j 05:31	23°♄04'52	0°-6'-40	morning rise	844 Nov 27 j 20:33	0°♄38'20	
minimum elong	839 Jun 11 j 05:30	23°♄04'52	0°06'41	retrograde	845 Mar 31 j 23:27	18°♄37'04	
behind sun begin	839 Jun 10 j 21:43	23°♄00'28		opposition	845 May 31 j 21:12	13°♄44'11	0°26'14
behind sun end	839 Jun 11 j 13:18	23°♄09'15		min. Earth dist.	845 Jun 02 j 05:40	13°♄33'49	4.22885 AU
max. Earth dist.	839 Jun 13 j 00:39	23°♄29'17	6.19319 AU	direct	845 Aug 01 j 09:48	8°♄46'57	
morning rise	839 Jun 24 j 23:30	26°♄11'11		desc. node	845 Nov 28 j 17:10	25°♄55'06	
	839 Jul 12 j 05:35	0°♄		evening set	845 Dec 04 j 15:01	27°♄16'44	
asc. node	839 Aug 16 j 16:13	7°♄07'36		max. Earth dist.	845 Dec 15 j 19:37	29°♄52'50	6.15814 AU
retrograde	839 Oct 28 j 08:15	14°♄34'06			845 Dec 16 j 07:54	0°♄	
opposition	839 Dec 26 j 23:49	9°♄32'21	0°19'06				
min. Earth dist.	839 Dec 26 j 03:47	9°♄39'05	4.26267 AU	conjunction	845 Dec 17 j 07:44	0°♄13'54	0°-1'-55
direct	840 Feb 25 j 02:40	4°♄30'24		minimum elong	845 Dec 17 j 07:43	0°♄13'53	0°01'55
evening set	840 Jul 01 j 02:10	22°♄43'10		behind sun begin	845 Dec 16 j 23:43	0°♄09'14	
				behind sun end	845 Dec 17 j 15:44	0°♄18'32	
conjunction	840 Jul 14 j 15:44	25°♄42'10	0°31'22	morning rise	845 Dec 30 j 00:57	3°♄11'35	
minimum elong	840 Jul 14 j 15:42	25°♄42'09	0°31'22	retrograde	846 May 06 j 15:50	22°♄16'12	
max. Earth dist.	840 Jul 15 j 09:19	25°♄51'51	6.32734 AU	opposition	846 Jul 06 j 09:09	17°♄20'43	0°-32'-45
morning rise	840 Jul 28 j 03:32	28°♄40'02		min. Earth dist.	846 Jul 07 j 01:44	17°♄15'21	4.08909 AU
	840 Aug 03 j 06:30	0°♄		direct	846 Sep 04 j 10:35	12°♄25'58	
	840 Nov 01 j 02:09	15°♄			846 Dec 31 j 23:02	0°♄	
retrograde	840 Nov 27 j 09:19	16°♄05'37		evening set	847 Jan 07 j 12:38	1°♄33'09	
	840 Dec 23 j 13:03	15°♄					
opposition	841 Jan 26 j 08:47	11°♄07'39	1°07'55	conjunction	847 Jan 20 j 09:33	4°♄37'37	0°-40'-16
min. Earth dist.	841 Jan 26 j 05:51	11°♄08'37	4.38063 AU	minimum elong	847 Jan 20 j 09:31	4°♄37'36	0°40'17
direct	841 Mar 28 j 19:00	6°♄04'34		max. Earth dist.	847 Jan 19 j 23:40	4°♄31'41	6.02996 AU
	841 Jun 20 j 07:20	15°♄		morning rise	847 Feb 02 j 08:30	7°♄43'23	
evening set	841 Aug 02 j 19:51	23°♄50'37			847 Mar 06 j 00:26	15°♄	
				retrograde	847 Jun 13 j 07:31	27°♄51'27	
conjunction	841 Aug 16 j 01:49	26°♄42'39	0°58'43	opposition	847 Aug 12 j 13:44	22°♄52'17	-1°-23'-20
minimum elong	841 Aug 16 j 01:46	26°♄42'38	0°58'43	min. Earth dist.	847 Aug 12 j 09:13	22°♄53'46	3.98514 AU
max. Earth dist.	841 Aug 15 j 16:35	26°♄37'39	6.42008 AU	direct	847 Oct 10 j 07:29	17°♄58'46	
morning rise	841 Aug 29 j 04:46	29°♄33'12			848 Jan 10 j 21:03	0°♄	
	841 Aug 31 j 06:37	0°♄		evening set	848 Feb 12 j 11:52	7°♄34'11	
retrograde	841 Dec 27 j 14:38	16°♄25'34					
opposition	842 Feb 25 j 23:11	11°♄31'03	1°35'58	conjunction	848 Feb 25 j 15:42	10°♄44'52	-1°-5'00
min. Earth dist.	842 Feb 26 j 13:46	11°♄26'19	4.44337 AU	minimum elong	848 Feb 25 j 15:40	10°♄44'51	1°05'01
direct	842 Apr 29 j 08:23	6°♄28'11		max. Earth dist.	848 Feb 26 j 14:42	10°♄58'47	5.95983 AU
evening set	842 Sep 03 j 03:08	24°♄01'47		morning rise	848 Mar 09 j 22:30	13°♄57'14	
max. Earth dist.	842 Sep 14 j 15:33	26°♄31'18	6.44730 AU		848 May 25 j 23:54	0°♄	
				retrograde	848 Jul 20 j 11:37	4°♄36'57	
conjunction	842 Sep 16 j 01:23	26°♄49'39	1°09'18		848 Sep 15 j 01:52	30°♄	
minimum elong	842 Sep 16 j 01:23	26°♄49'39	1°09'17	min. Earth dist.	848 Sep 17 j 06:15	29°♄42'22	3.95852 AU
morning rise	842 Sep 28 j 20:56	29°♄36'11		opposition	848 Sep 18 j 07:03	29°♄34'00	-1°-42'-41
	842 Sep 30 j 17:09	0°♄		direct	848 Nov 15 j 04:24	24°♄39'44	
retrograde	843 Jan 27 j 00:41	16°♄23'26			849 Jan 12 j 11:24	0°♄	
opposition	843 Mar 28 j 16:48	11°♄31'02	1°38'07	evening set	849 Mar 20 j 20:37	14°♄19'40	
min. Earth dist.	843 Mar 29 j 22:13	11°♄21'37	4.43468 AU				
direct	843 May 30 j 11:56	6°♄29'17		conjunction	849 Apr 03 j 08:21	17°♄33'09	-1°-4'-34
evening set	843 Oct 03 j 18:12	24°♄06'47		minimum elong	849 Apr 03 j 08:23	17°♄33'10	1°04'35
max. Earth dist.	843 Oct 14 j 12:42	26°♄28'34	6.40257 AU	max. Earth dist.	849 Apr 05 j 07:50	18°♄01'34	5.97822 AU
				morning rise	849 Apr 16 j 23:15	20°♄48'07	
conjunction	843 Oct 16 j 11:31	26°♄54'20	1°01'06		849 May 27 j 16:42	0°♄	
minimum elong	843 Oct 16 j 11:32	26°♄54'21	1°01'06	retrograde	849 Aug 26 j 10:07	11°♄08'25	
morning rise	843 Oct 29 j 02:27	29°♄40'56		min. Earth dist.	849 Oct 23 j 13:52	6°♄15'09	4.02036 AU
	843 Oct 30 j 13:19	0°♄		opposition	849 Oct 25 j 00:34	6°♄03'18	-1°-21'-16
	844 Jan 23 j 11:39	15°♄		direct	849 Dec 22 j 01:20	1°♄06'21	
retrograde	844 Feb 27 j 11:24	16°♄51'03			850 Apr 03 j 10:08	15°♄	
	844 Apr 02 j 18:40	15°♄		evening set	850 Apr 27 j 06:26	20°♄24'41	
opposition	844 Apr 28 j 10:11	11°♄59'13	1°13'34				
min. Earth dist.	844 Apr 29 j 21:27	11°♄47'59	4.35653 AU	conjunction	850 May 11 j 00:04	23°♄36'17	0°-39'-20
direct	844 Jun 29 j 20:54	6°♄59'28		minimum elong	850 May 11 j 00:07	23°♄36'19	0°39'20
	844 Sep 15 j 18:35	15°♄		max. Earth dist.	850 May 13 j 06:44	24°♄08'06	6.07723 AU
evening set	844 Nov 02 j 14:56	24°♄56'46		morning rise	850 May 24 j 19:09	26°♄48'24	
max. Earth dist.	844 Nov 13 j 05:52	27°♄20'20	6.29683 AU		850 Jun 07 j 19:23	0°♄	

retrograde	850 Sep 30 j 06:05	16° Π 09'35			856 Aug 23 j 04:52	15° \mathbb{M}	
min. Earth dist.	850 Nov 27 j 11:54	11° Π 15'42	4.14463 AU	evening set	856 Nov 07 j 00:07	29° \mathbb{M} 29'32	
opposition	850 Nov 28 j 18:33	11° Π 05'16	0°-30'-48		856 Nov 09 j 06:08	0° \mathcal{A}	
direct	851 Jan 26 j 18:39	6° Π 05'18		max. Earth dist.	856 Nov 17 j 16:02	1° \mathcal{A} 54'23	6.27443 AU
evening set	851 Jun 02 j 10:34	24° Π 47'38					
conjunction	851 Jun 16 j 04:22	27° Π 53'09	0°-1'-4	conjunction	856 Nov 19 j 15:37	2° \mathcal{A} 21'26	0°30'49
minimum elong	851 Jun 16 j 04:21	27° Π 53'09	0°01'04	minimum elong	856 Nov 19 j 15:39	2° \mathcal{A} 21'27	0°30'50
behind sun begin	851 Jun 15 j 19:59	27° Π 48'28		morning rise	856 Dec 02 j 06:11	5° \mathcal{A} 13'07	
behind sun end	851 Jun 16 j 12:43	27° Π 57'50		retrograde	857 Apr 05 j 19:59	23° \mathcal{A} 21'50	
max. Earth dist.	851 Jun 17 j 20:24	28° Π 15'42	6.21619 AU	opposition	857 Jun 05 j 17:59	18° \mathcal{A} 28'42	0°18'18
	851 Jun 25 j 13:52	0° \mathcal{E}		min. Earth dist.	857 Jun 07 j 00:05	18° \mathcal{A} 19'04	4.20491 AU
asc. node	851 Jun 26 j 16:34	0° \mathcal{E} 14'59		direct	857 Aug 06 j 00:30	13° \mathcal{A} 31'54	
morning rise	851 Jun 29 j 21:47	0° \mathcal{E} 58'10		desc. node	857 Oct 08 j 07:54	19° \mathcal{A} 16'39	
retrograde	851 Nov 01 j 16:46	19° \mathcal{E} 10'48			857 Nov 30 j 00:28	0° \mathcal{E}	
opposition	851 Dec 31 j 10:37	14° \mathcal{E} 09'31	0°26'46	evening set	857 Dec 09 j 07:16	2° \mathcal{E} 08'26	
min. Earth dist.	851 Dec 30 j 16:19	14° \mathcal{E} 15'40	4.28460 AU	max. Earth dist.	857 Dec 20 j 15:46	4° \mathcal{E} 47'38	6.13479 AU
direct	852 Feb 29 j 17:49	9° \mathcal{E} 07'19		conjunction	857 Dec 22 j 00:25	5° \mathcal{E} 06'47	0°-7'-35
evening set	852 Jul 05 j 17:38	27° \mathcal{E} 14'33		minimum elong	857 Dec 22 j 00:24	5° \mathcal{E} 06'47	0°07'36
	852 Jul 18 j 07:48	0° \mathcal{Q}		behind sun begin	857 Dec 21 j 17:07	5° \mathcal{E} 02'32	
conjunction	852 Jul 19 j 06:15	0° \mathcal{Q} 12'20	0°35'58	behind sun end	857 Dec 22 j 07:42	5° \mathcal{E} 11'02	
minimum elong	852 Jul 19 j 06:13	0° \mathcal{Q} 12'19	0°35'57	morning rise	858 Jan 03 j 18:21	8° \mathcal{E} 05'47	
max. Earth dist.	852 Jul 19 j 20:08	0° \mathcal{Q} 19'57	6.34645 AU	retrograde	858 May 11 j 23:07	27° \mathcal{E} 21'22	
morning rise	852 Aug 01 j 16:45	3° \mathcal{Q} 08'54		opposition	858 Jul 11 j 14:01	22° \mathcal{E} 25'27	0°-40'-59
	852 Oct 01 j 00:36	15° \mathcal{Q}		min. Earth dist.	858 Jul 12 j 04:12	22° \mathcal{E} 20'50	4.06836 AU
retrograde	852 Dec 01 j 14:39	20° \mathcal{Q} 27'25		direct	858 Sep 09 j 11:32	17° \mathcal{E} 30'57	
opposition	853 Jan 30 j 14:55	15° \mathcal{Q} 30'01	1°13'09		858 Dec 14 j 08:51	0° \approx	
min. Earth dist.	853 Jan 30 j 15:00	15° \mathcal{Q} 30'00	4.39555 AU	evening set	859 Jan 12 j 12:56	6° \approx 43'59	
	853 Feb 03 j 10:17	15° \mathcal{R} \mathcal{Q}		conjunction	859 Jan 25 j 10:49	9° \approx 49'35	0°-44'-57
direct	853 Apr 02 j 05:19	10° \mathcal{Q} 26'56		minimum elong	859 Jan 25 j 10:46	9° \approx 49'33	0°44'57
	853 May 29 j 14:41	15° \mathcal{Q}		max. Earth dist.	859 Jan 25 j 06:21	9° \approx 46'54	6.01387 AU
evening set	853 Aug 07 j 04:55	28° \mathcal{Q} 09'39		morning rise	859 Feb 07 j 10:48	12° \approx 56'31	
	853 Aug 15 j 17:21	0° \mathcal{M}			859 Feb 16 j 03:13	15° \approx	
conjunction	853 Aug 20 j 09:39	1° \mathcal{M} 00'51	1°01'13		859 May 03 j 20:58	0° \mathcal{H}	
minimum elong	853 Aug 20 j 09:37	1° \mathcal{M} 00'50	1°01'14	retrograde	859 Jun 18 j 18:42	3° \mathcal{H} 11'59	
max. Earth dist.	853 Aug 19 j 19:04	0° \mathcal{M} 52'57	6.42941 AU		859 Aug 04 j 02:28	30° \mathcal{R} \approx	
morning rise	853 Sep 02 j 11:34	3° \mathcal{M} 50'35		opposition	859 Aug 17 j 23:06	28° \approx 12'14	-1°-28'-24
retrograde	853 Dec 31 j 18:51	20° \mathcal{M} 40'22		min. Earth dist.	859 Aug 17 j 14:41	28° \approx 15'01	3.97580 AU
opposition	854 Mar 02 j 03:56	15° \mathcal{M} 46'13	1°37'49	direct	859 Oct 15 j 12:04	23° \approx 18'47	
min. Earth dist.	854 Mar 02 j 21:30	15° \mathcal{M} 40'32	4.44679 AU		859 Dec 20 j 16:31	0° \mathcal{H}	
direct	854 May 03 j 15:20	10° \mathcal{M} 43'23		evening set	860 Feb 17 j 18:34	12° \mathcal{H} 56'17	
evening set	854 Sep 07 j 08:41	28° \mathcal{M} 16'45		conjunction	860 Mar 01 j 23:20	16° \mathcal{H} 07'31	-1°-6'-35
	854 Sep 15 j 07:40	0° \mathcal{A}		minimum elong	860 Mar 01 j 23:20	16° \mathcal{H} 07'31	1°06'36
max. Earth dist.	854 Sep 18 j 18:34	0° \mathcal{A} 45'01	6.44442 AU	max. Earth dist.	860 Mar 03 j 02:12	16° \mathcal{H} 23'46	5.95777 AU
				morning rise	860 Mar 15 j 07:25	19° \mathcal{H} 20'30	
conjunction	854 Sep 20 j 06:15	1° \mathcal{A} 04'25	1°09'16		860 May 01 j 13:43	0° \mathcal{Y}	
minimum elong	854 Sep 20 j 06:15	1° \mathcal{A} 04'25	1°09'16	retrograde	860 Jul 25 j 18:49	9° \mathcal{Y} 59'57	
morning rise	854 Oct 03 j 00:49	3° \mathcal{A} 50'44		min. Earth dist.	860 Sep 22 j 11:07	5° \mathcal{Y} 05'47	3.96399 AU
retrograde	855 Jan 31 j 06:15	20° \mathcal{A} 39'58		opposition	860 Sep 23 j 14:46	4° \mathcal{Y} 56'26	-1°-42'00
opposition	855 Apr 01 j 23:42	15° \mathcal{A} 47'47	1°36'16	direct	860 Nov 20 j 11:40	0° \mathcal{Y} 01'49	
min. Earth dist.	855 Apr 03 j 06:24	15° \mathcal{A} 37'59	4.42577 AU	evening set	861 Mar 26 j 04:47	19° \mathcal{Y} 39'08	
direct	855 Jun 03 j 17:30	10° \mathcal{A} 46'17					
evening set	855 Oct 07 j 23:55	28° \mathcal{A} 26'33		conjunction	861 Apr 08 j 17:40	22° \mathcal{Y} 52'31	-1°-2'-17
	855 Oct 15 j 01:52	0° \mathbb{M}		minimum elong	861 Apr 08 j 17:42	22° \mathcal{Y} 52'33	1°02'18
max. Earth dist.	855 Oct 18 j 15:32	0° \mathbb{M} 47'19	6.38814 AU	max. Earth dist.	861 Apr 10 j 20:45	23° \mathcal{Y} 22'59	5.99052 AU
				morning rise	861 Apr 22 j 09:14	26° \mathcal{Y} 07'13	
conjunction	855 Oct 20 j 16:40	1° \mathbb{M} 14'29	0°58'30		861 May 09 j 00:59	0° \mathcal{B}	
minimum elong	855 Oct 20 j 16:42	1° \mathbb{M} 14'30	0°58'30		861 Aug 02 j 18:44	15° \mathcal{B}	
morning rise	855 Nov 02 j 07:30	4° \mathbb{M} 01'36		retrograde	861 Aug 31 j 12:27	16° \mathcal{B} 19'45	
	855 Dec 26 j 21:11	15° \mathbb{M}			861 Sep 28 j 22:31	15° \mathcal{R} \mathcal{B}	
retrograde	856 Mar 03 j 01:53	21° \mathbb{M} 18'11		min. Earth dist.	861 Oct 28 j 15:22	11° \mathcal{B} 26'14	4.03779 AU
opposition	856 May 02 j 23:07	16° \mathbb{M} 26'21	1°08'12	opposition	861 Oct 30 j 01:37	11° \mathcal{B} 14'33	-1°-15'-22
min. Earth dist.	856 May 04 j 11:44	16° \mathbb{M} 14'41	4.33731 AU	direct	861 Dec 27 j 05:44	6° \mathcal{B} 17'09	
	856 May 14 j 10:03	15° \mathcal{R} \mathbb{M}			862 Mar 15 j 00:26	15° \mathcal{B}	
direct	856 Jul 04 j 07:50	11° \mathbb{M} 26'55		evening set	862 May 02 j 11:04	25° \mathcal{B} 29'46	

conjunction	862 May 16 j 04:59	28°♄40'33	0°-34'-21	retrograde	868 Mar 07 j 16:16	25°♍50'13	
minimum elong	862 May 16 j 05:01	28°♄40'35	0°34'23	opposition	868 May 07 j 14:22	20°♍58'20	1°02'16
max. Earth dist.	862 May 18 j 10:28	29°♄11'31	6.09807 AU	min. Earth dist.	868 May 09 j 02:15	20°♍46'55	4.31906 AU
	862 May 21 j 22:17	0°♂		direct	868 Jul 08 j 19:33	15°♍59'21	
morning rise	862 May 30 j 00:16	1°♂51'45			868 Oct 23 j 22:47	0°♂	
retrograde	862 Oct 04 j 20:59	21°♂02'10		evening set	868 Nov 11 j 11:30	4°♂06'48	
min. Earth dist.	862 Dec 02 j 05:16	16°♂08'22	4.16673 AU	max. Earth dist.	868 Nov 22 j 04:13	6°♂32'50	6.25438 AU
opposition	862 Dec 03 j 11:18	15°♂58'10	0°-22'-37				
direct	863 Jan 31 j 14:46	10°♂57'48		conjunction	868 Nov 24 j 02:57	6°♂59'31	0°25'49
asc. node	863 May 06 j 09:29	22°♂40'18		minimum elong	868 Nov 24 j 02:59	6°♂59'32	0°25'50
evening set	863 Jun 07 j 08:26	29°♂34'03		morning rise	868 Dec 06 j 17:55	9°♂52'12	
	863 Jun 09 j 06:58	0°♄		retrograde	869 Apr 10 j 20:05	28°♂10'10	
				opposition	869 Jun 10 j 16:46	23°♂16'45	0°10'03
conjunction	863 Jun 21 j 01:45	2°♄38'25	0°04'35	min. Earth dist.	869 Jun 11 j 21:19	23°♂07'35	4.18449 AU
minimum elong	863 Jun 21 j 01:44	2°♄38'24	0°04'35	direct	869 Aug 10 j 19:37	18°♂20'21	
behind sun begin	863 Jun 20 j 17:35	2°♄33'51		desc. node	869 Aug 17 j 14:27	18°♂24'45	
behind sun end	863 Jun 21 j 09:53	2°♄42'57			869 Nov 12 j 16:52	0°♄	
max. Earth dist.	863 Jun 22 j 13:52	2°♄58'40	6.23789 AU	evening set	869 Dec 14 j 00:28	7°♄02'14	
morning rise	863 Jul 04 j 18:24	5°♄42'09					
retrograde	863 Nov 06 j 03:00	23°♄45'28		conjunction	869 Dec 26 j 18:14	10°♄01'37	0°-13'-14
opposition	864 Jan 04 j 20:59	18°♄44'44	0°34'15	minimum elong	869 Dec 26 j 18:13	10°♄01'37	0°13'16
min. Earth dist.	864 Jan 04 j 05:59	18°♄49'45	4.30402 AU	behind sun begin	869 Dec 26 j 13:25	9°♄58'48	
direct	864 Mar 05 j 09:41	13°♄42'20		behind sun end	869 Dec 26 j 23:01	10°♄04'26	
	864 Jul 02 j 06:29	0°♂		max. Earth dist.	869 Dec 25 j 13:53	9°♄44'57	6.11609 AU
evening set	864 Jul 10 j 08:39	1°♂44'55		morning rise	870 Jan 08 j 12:47	13°♄01'44	
					870 Apr 07 j 03:00	0°♁	
conjunction	864 Jul 23 j 20:16	4°♂41'38	0°40'22	retrograde	870 May 17 j 05:07	2°♁26'25	
minimum elong	864 Jul 23 j 20:14	4°♂41'37	0°40'21		870 Jun 26 j 15:04	30°♁♄	
max. Earth dist.	864 Jul 24 j 06:00	4°♂46'58	6.36214 AU	opposition	870 Jul 16 j 19:04	27°♄30'03	0°-48'-57
morning rise	864 Aug 06 j 05:37	7°♂37'05		min. Earth dist.	870 Jul 17 j 05:38	27°♄26'37	4.05333 AU
	864 Sep 10 j 17:13	15°♂		direct	870 Sep 14 j 11:12	22°♄35'54	
retrograde	864 Dec 05 j 19:07	24°♂49'50			870 Nov 24 j 09:41	0°♁	
opposition	865 Feb 03 j 21:25	19°♂52'56	1°18'02	evening set	871 Jan 17 j 12:58	11°♁52'40	
min. Earth dist.	865 Feb 03 j 23:40	19°♂52'11	4.40678 AU				
	865 Mar 27 j 03:32	15°♁♂		conjunction	871 Jan 30 j 11:27	14°♁59'01	0°-49'-15
direct	865 Apr 06 j 14:47	14°♂49'47		minimum elong	871 Jan 30 j 11:25	14°♁59'00	0°49'16
	865 Apr 17 j 04:50	15°♂		max. Earth dist.	871 Jan 30 j 10:54	14°♁58'42	6.00378 AU
	865 Jul 30 j 20:04	0°♁			871 Jan 30 j 13:05	15°♁	
evening set	865 Aug 11 j 14:43	2°♁30'21		morning rise	871 Feb 12 j 12:31	18°♁06'51	
					871 Apr 07 j 07:25	0°♁	
conjunction	865 Aug 24 j 18:23	5°♁20'51	1°03'26	retrograde	871 Jun 24 j 02:03	8°♁27'17	
minimum elong	865 Aug 24 j 18:22	5°♁20'50	1°03'25	opposition	871 Aug 23 j 06:11	3°♁26'55	-1°-32'-39
max. Earth dist.	865 Aug 24 j 00:33	5°♁11'12	6.43538 AU	min. Earth dist.	871 Aug 22 j 18:10	3°♁30'55	3.97192 AU
morning rise	865 Sep 06 j 19:07	8°♁09'54			871 Sep 21 j 03:13	30°♁♁	
retrograde	866 Jan 05 j 00:16	24°♁58'07		direct	871 Oct 20 j 16:00	28°♁33'27	
opposition	866 Mar 06 j 10:19	20°♁04'22	1°39'12		871 Nov 19 j 01:06	0°♁	
min. Earth dist.	866 Mar 07 j 06:29	19°♁57'52	4.44730 AU	evening set	872 Feb 22 j 22:55	18°♁11'16	
direct	866 May 07 j 23:46	15°♁01'42					
	866 Aug 30 j 12:32	0°♁		conjunction	872 Mar 07 j 04:53	21°♁22'53	-1°-7'-36
evening set	866 Sep 11 j 15:44	2°♁35'24		minimum elong	872 Mar 07 j 04:52	21°♁22'52	1°07'36
max. Earth dist.	866 Sep 22 j 20:46	5°♁01'21	6.43925 AU	max. Earth dist.	872 Mar 08 j 13:20	21°♁42'29	5.96040 AU
				morning rise	872 Mar 20 j 13:50	24°♁36'09	
conjunction	866 Sep 24 j 12:24	5°♁22'56	1°08'52		872 Apr 12 j 14:33	0°♁	
minimum elong	866 Sep 24 j 12:24	5°♁22'56	1°08'52	retrograde	872 Jul 31 j 00:35	15°♁13'22	
morning rise	866 Oct 07 j 06:25	8°♁09'13		opposition	872 Sep 28 j 18:33	10°♁09'30	-1°-40'-29
retrograde	867 Feb 04 j 15:43	25°♁01'12		min. Earth dist.	872 Sep 27 j 14:04	10°♁19'09	3.97292 AU
opposition	867 Apr 06 j 09:17	20°♁09'09	1°33'51	direct	872 Nov 25 j 16:11	5°♁14'36	
min. Earth dist.	867 Apr 07 j 17:39	19°♁58'48	4.41533 AU	evening set	873 Mar 31 j 09:16	24°♁48'26	
direct	867 Jun 08 j 02:39	15°♁07'52					
	867 Sep 29 j 04:24	0°♍		conjunction	873 Apr 13 j 22:55	28°♁01'33	0°-59'-34
evening set	867 Oct 12 j 07:24	2°♍51'03		minimum elong	873 Apr 13 j 22:57	28°♁01'34	0°59'35
max. Earth dist.	867 Oct 22 j 23:21	5°♍12'28	6.37330 AU	max. Earth dist.	873 Apr 16 j 02:52	28°♁32'23	6.00457 AU
					873 Apr 22 j 06:42	0°♄	
conjunction	867 Oct 24 j 23:58	5°♍39'27	0°55'31	morning rise	873 Apr 27 j 15:22	1°♄15'56	
minimum elong	867 Oct 25 j 00:00	5°♍39'28	0°55'30		873 Jul 01 j 11:20	15°♄	
morning rise	867 Nov 06 j 14:26	8°♍27'03		retrograde	873 Sep 05 j 08:18	21°♄20'19	
	867 Dec 07 j 07:55	15°♍		min. Earth dist.	873 Nov 02 j 11:19	16°♄27'04	4.05543 AU

opposition	873 Nov 03 j 22:12	16°♄15'10	-1°-9'-6	conjunction	879 Oct 29 j 07:31	10°♍06'32	0°52'10
	873 Nov 13 j 05:20	15°♄♄		minimum elong	879 Oct 29 j 07:33	10°♍06'33	0°52'10
direct	874 Jan 01 j 03:50	11°♄17'21		morning rise	879 Nov 10 j 21:59	12°♍♄4'40	
	874 Feb 18 j 18:55	15°♄			879 Nov 20 j 09:55	15°♍	
	874 May 05 j 16:22	0°♄			880 Feb 25 j 07:08	0°♄♄	
evening set	874 May 07 j 11:28	0°♄24'40		retrograde	880 Mar 12 j 08:00	0°♄♄24'02	
					880 Mar 28 j 08:59	30°♍♍	
conjunction	874 May 21 j 05:35	3°♄34'40	0°-29'-19	opposition	880 May 12 j 06:21	25°♍31'57	0°55'54
minimum elong	874 May 21 j 05:37	3°♄34'42	0°29'19	min. Earth dist.	880 May 13 j 17:36	25°♍20'43	4.30254 AU
max. Earth dist.	874 May 23 j 08:21	4°♄03'56	6.11770 AU	direct	880 Jul 13 j 09:06	20°♍33'14	
morning rise	874 Jun 04 j 00:49	6°♄44'56			880 Oct 06 j 03:47	0°♄♄	
retrograde	874 Oct 09 j 10:20	25°♄45'45		evening set	880 Nov 15 j 22:31	8°♄♄44'33	
min. Earth dist.	874 Dec 06 j 21:18	20°♄51'22	4.18627 AU	max. Earth dist.	880 Nov 26 j 18:31	11°♄♄12'59	6.23678 AU
opposition	874 Dec 08 j 00:32	20°♄42'07	0°-14'-35				
direct	875 Feb 05 j 09:07	15°♄41'26		conjunction	880 Nov 28 j 14:13	11°♄♄38'02	0°20'40
asc. node	875 Mar 17 j 08:03	18°♄09'35		minimum elong	880 Nov 28 j 14:15	11°♄♄38'03	0°20'40
	875 May 23 j 20:13	0°♄♄		morning rise	880 Dec 11 j 05:20	14°♄♄31'33	
evening set	875 Jun 12 j 02:56	4°♄♄12'49			881 Mar 02 j 04:08	0°♄♄	
				retrograde	881 Apr 15 j 18:13	2°♄♄57'41	
conjunction	875 Jun 25 j 19:48	7°♄♄16'12	0°09'55		881 May 31 j 02:36	30°♍♄♄	
minimum elong	875 Jun 25 j 19:47	7°♄♄16'12	0°09'55	opposition	881 Jun 15 j 14:58	28°♄♄03'55	0°01'45
behind sun begin	875 Jun 25 j 13:07	7°♄♄12'29		min. Earth dist.	881 Jun 16 j 17:29	27°♄♄55'24	4.16690 AU
behind sun end	875 Jun 26 j 02:28	7°♄♄19'55		desc. node	881 Jun 27 j 09:24	26°♄♄34'36	
max. Earth dist.	875 Jun 27 j 05:06	7°♄♄34'48	6.25588 AU	direct	881 Aug 15 j 13:34	23°♄♄07'52	
morning rise	875 Jul 09 j 11:37	10°♄♄18'50			881 Oct 23 j 21:54	0°♄♄	
retrograde	875 Nov 10 j 08:53	28°♄♄14'28		evening set	881 Dec 18 j 17:04	11°♄♄54'01	
opposition	876 Jan 09 j 04:40	23°♄♄14'18	0°41'18	max. Earth dist.	881 Dec 30 j 09:00	14°♄♄38'50	6.09985 AU
min. Earth dist.	876 Jan 08 j 15:20	23°♄♄18'45	4.31925 AU				
direct	876 Mar 09 j 20:28	18°♄♄11'45		conjunction	881 Dec 31 j 11:07	14°♄♄54'15	0°-18'-47
	876 Jun 15 j 11:24	0°♄♄		minimum elong	881 Dec 31 j 11:06	14°♄♄54'14	0°18'47
evening set	876 Jul 14 j 21:34	6°♄♄11'18		morning rise	882 Jan 13 j 06:30	17°♄♄55'22	
					882 Mar 10 j 09:12	0°♄♄	
conjunction	876 Jul 28 j 08:07	9°♄♄07'08	0°44'25	retrograde	882 May 22 j 09:06	7°♄♄28'12	
minimum elong	876 Jul 28 j 08:04	9°♄♄07'07	0°44'26	opposition	882 Jul 21 j 22:18	2°♄♄31'14	0°-56'-29
max. Earth dist.	876 Jul 28 j 12:48	9°♄♄09'42	6.37351 AU	min. Earth dist.	882 Jul 22 j 05:40	2°♄♄28'50	4.03981 AU
morning rise	876 Aug 10 j 16:23	12°♄♄01'40			882 Aug 11 j 05:15	30°♍♄♄	
	876 Aug 24 j 13:10	15°♄♄		direct	882 Sep 19 j 10:05	27°♄♄37'12	
retrograde	876 Dec 10 j 00:54	29°♄♄10'21			882 Oct 27 j 23:16	0°♄♄	
opposition	877 Feb 08 j 03:13	24°♄♄13'59	1°22'24		883 Jan 14 j 06:01	15°♄♄	
min. Earth dist.	877 Feb 08 j 08:57	24°♄♄12'06	4.41380 AU	evening set	883 Jan 22 j 11:32	16°♄♄57'25	
direct	877 Apr 11 j 00:52	19°♄♄10'51					
	877 Jul 13 j 21:11	0°♄♄		conjunction	883 Feb 04 j 11:04	20°♄♄04'36	0°-53'-9
evening set	877 Aug 15 j 23:27	6°♄♄50'26		minimum elong	883 Feb 04 j 11:02	20°♄♄04'34	0°53'10
max. Earth dist.	877 Aug 28 j 04:57	9°♄♄28'59	6.43744 AU	max. Earth dist.	883 Feb 04 j 16:05	20°♄♄07'37	5.99424 AU
				morning rise	883 Feb 17 j 12:58	23°♄♄13'15	
conjunction	877 Aug 29 j 02:10	9°♄♄40'28	1°05'16		883 Mar 18 j 18:08	0°♄♄	
minimum elong	877 Aug 29 j 02:08	9°♄♄40'27	1°05'15	retrograde	883 Jun 29 j 09:28	13°♄♄38'17	
morning rise	877 Sep 11 j 01:51	12°♄♄29'02		opposition	883 Aug 28 j 11:23	8°♄♄37'24	-1°-36'-9
retrograde	878 Jan 09 j 05:12	29°♄♄17'00		min. Earth dist.	883 Aug 27 j 21:36	8°♄♄42'00	3.96756 AU
opposition	878 Mar 10 j 16:58	24°♄♄23'32	1°40'01	direct	883 Oct 25 j 19:00	3°♄♄43'50	
min. Earth dist.	878 Mar 11 j 14:30	24°♄♄16'35	4.44472 AU	evening set	884 Feb 28 j 02:10	23°♄♄22'25	
direct	878 May 12 j 07:02	19°♄♄21'00					
	878 Aug 13 j 13:04	0°♄♄		conjunction	884 Mar 12 j 09:05	26°♄♄34'27	-1°-8'-5
evening set	878 Sep 15 j 22:56	6°♄♄55'50		minimum elong	884 Mar 12 j 09:05	26°♄♄34'27	1°08'06
max. Earth dist.	878 Sep 27 j 02:44	9°♄♄21'24	6.43226 AU	max. Earth dist.	884 Mar 13 j 19:58	26°♄♄55'28	5.96135 AU
				morning rise	884 Mar 25 j 19:20	29°♄♄48'11	
conjunction	878 Sep 28 j 18:55	9°♄♄43'20	1°08'03		884 Mar 26 j 15:06	0°♄♄	
minimum elong	878 Sep 28 j 18:56	9°♄♄43'21	1°08'03	retrograde	884 Aug 05 j 03:07	20°♄♄23'43	
morning rise	878 Oct 11 j 12:09	12°♄♄29'37		opposition	884 Oct 03 j 20:52	15°♄♄19'32	-1°-38'-14
retrograde	879 Feb 09 j 01:03	29°♄♄24'44		min. Earth dist.	884 Oct 02 j 14:09	15°♄♄29'57	3.97928 AU
opposition	879 Apr 10 j 19:31	24°♄♄32'49	1°30'52	direct	884 Nov 30 j 17:33	10°♄♄24'15	
min. Earth dist.	879 Apr 12 j 04:53	24°♄♄22'11	4.40443 AU	evening set	885 Apr 05 j 13:33	29°♄♄55'54	
direct	879 Jun 12 j 12:49	19°♄♄31'51			885 Apr 05 j 20:31	0°♄♄	
	879 Sep 12 j 01:09	0°♄♄					
evening set	879 Oct 16 j 15:24	7°♄♄17'44		conjunction	885 Apr 19 j 04:07	3°♄♄08'55	0°-56'-26
max. Earth dist.	879 Oct 27 j 05:32	9°♄♄38'42	6.35923 AU	minimum elong	885 Apr 19 j 04:09	3°♄♄08'57	0°56'26
				max. Earth dist.	885 Apr 21 j 08:25	3°♄♄39'53	6.01565 AU

morning rise	885 May 02 j 21:16	6°♄23'05		minimum elong	890 Oct 03 j 01:33	14°♄04'33	1°06'54
	885 Jun 10 j 07:42	15°♄		morning rise	890 Oct 15 j 18:09	16°♄50'41	
retrograde	885 Sep 10 j 05:30	26°♄20'33			890 Dec 24 j 10:04	0°♄	
min. Earth dist.	885 Nov 07 j 09:11	21°♄26'53	4.06971 AU	retrograde	891 Feb 13 j 09:20	3°♄47'33	
opposition	885 Nov 08 j 18:45	21°♄15'25	-1°-2'-23		891 Apr 06 j 18:19	30°♄	
direct	886 Jan 06 j 03:57	16°♄17'09		opposition	891 Apr 15 j 05:55	28°♄55'41	1°27'25
	886 Apr 18 j 15:37	0°♄		min. Earth dist.	891 Apr 16 j 15:06	28°♄45'06	4.39890 AU
evening set	886 May 12 j 12:49	5°♄20'32		direct	891 Jun 16 j 22:10	23°♄55'01	
					891 Aug 23 j 05:28	0°♄	
conjunction	886 May 26 j 07:18	8°♄29'56	0°-24'-1	evening set	891 Oct 20 j 22:00	11°♄41'42	
minimum elong	886 May 26 j 07:19	8°♄29'57	0°24'02	max. Earth dist.	891 Oct 31 j 13:17	14°♄03'36	6.35078 AU
max. Earth dist.	886 May 28 j 09:32	8°♄58'46	6.13411 AU				
morning rise	886 Jun 09 j 02:23	11°♄39'25		conjunction	891 Nov 02 j 13:50	14°♄30'42	0°48'38
	886 Sep 26 j 01:39	0°♄		minimum elong	891 Nov 02 j 13:52	14°♄30'43	0°48'38
retrograde	886 Oct 14 j 00:09	0°♄31'36			891 Nov 04 j 18:18	15°♄	
	886 Oct 31 j 19:52	30°♄		morning rise	891 Nov 15 j 03:57	17°♄19'06	
opposition	886 Dec 12 j 14:53	25°♄28'25	0°-6'-22		892 Jan 18 j 11:49	0°♄	
min. Earth dist.	886 Dec 11 j 12:33	25°♄37'20	4.20314 AU	retrograde	892 Mar 16 j 21:10	4°♄52'59	
asc. node	887 Jan 25 j 02:27	20°♄52'49		opposition	892 May 16 j 20:24	0°♄00'49	0°49'21
direct	887 Feb 10 j 02:20	20°♄27'27			892 May 16 j 22:57	30°♄	
	887 May 05 j 13:42	0°♄		min. Earth dist.	892 May 18 j 07:32	29°♄49'38	4.29142 AU
evening set	887 Jun 16 j 23:14	8°♄54'53		direct	892 Jul 17 j 21:22	25°♄02'29	
					892 Sep 15 j 01:51	0°♄	
conjunction	887 Jun 30 j 15:22	11°♄57'19	0°15'18	evening set	892 Nov 20 j 07:04	13°♄16'01	
minimum elong	887 Jun 30 j 15:21	11°♄57'18	0°15'18	max. Earth dist.	892 Dec 01 j 02:59	15°♄44'55	6.22388 AU
behind sun begin	887 Jun 30 j 13:19	11°♄56'10					
behind sun end	887 Jun 30 j 17:24	11°♄58'26		conjunction	892 Dec 02 j 22:41	16°♄10'02	0°15'33
max. Earth dist.	887 Jul 01 j 19:52	12°♄13'10	6.27193 AU	minimum elong	892 Dec 02 j 22:42	16°♄10'03	0°15'32
morning rise	887 Jul 14 j 06:31	14°♄58'56		behind sun begin	892 Dec 02 j 20:15	16°♄08'38	
	887 Oct 03 j 01:50	0°♄		behind sun end	892 Dec 03 j 01:10	16°♄11'27	
retrograde	887 Nov 14 j 19:02	2°♄47'38		morning rise	892 Dec 15 j 14:15	19°♄04'15	
	887 Dec 27 j 11:42	30°♄			893 Feb 05 j 06:44	0°♄	
opposition	888 Jan 13 j 14:48	27°♄48'01	0°48'16	retrograde	893 Apr 20 j 12:57	7°♄37'16	
min. Earth dist.	888 Jan 13 j 04:33	27°♄51'26	4.33334 AU	desc. node	893 May 09 j 06:33	7°♄04'30	
direct	888 Mar 14 j 11:50	22°♄45'22		opposition	893 Jun 20 j 09:38	2°♄43'08	0°-6'-16
	888 May 27 j 01:01	0°♄		min. Earth dist.	893 Jun 21 j 10:01	2°♄35'17	4.15293 AU
evening set	888 Jul 19 j 12:23	10°♄42'01			893 Jul 12 j 19:25	30°♄	
				direct	893 Aug 20 j 04:00	27°♄47'20	
conjunction	888 Aug 01 j 22:02	13°♄37'00	0°48'20		893 Sep 26 j 23:52	0°♄	
minimum elong	888 Aug 01 j 22:00	13°♄36'59	0°48'20	evening set	893 Dec 23 j 05:47	16°♄36'55	
max. Earth dist.	888 Aug 02 j 00:39	13°♄38'26	6.38483 AU	max. Earth dist.	894 Jan 04 j 02:22	19°♄24'52	6.08612 AU
	888 Aug 08 j 06:14	15°♄					
morning rise	888 Aug 15 j 04:59	16°♄30'35		conjunction	894 Jan 05 j 00:29	19°♄37'58	0°-23'-59
	888 Oct 26 j 04:48	0°♄		minimum elong	894 Jan 05 j 00:28	19°♄37'57	0°24'00
retrograde	888 Dec 14 j 06:28	3°♄35'07		morning rise	894 Jan 17 j 20:24	22°♄39'57	
	889 Feb 02 j 00:46	30°♄			894 Feb 19 j 03:38	0°♄	
opposition	889 Feb 12 j 11:04	28°♄39'16	1°26'26	retrograde	894 May 27 j 10:14	12°♄20'18	
min. Earth dist.	889 Feb 12 j 17:50	28°♄37'04	4.42211 AU	opposition	894 Jul 26 j 21:21	7°♄22'54	-1°-3'-20
direct	889 Apr 15 j 10:44	23°♄36'17		min. Earth dist.	894 Jul 27 j 03:18	7°♄20'57	4.02755 AU
	889 Jun 23 j 23:44	0°♄		direct	894 Sep 24 j 05:05	2°♄29'02	
evening set	889 Aug 20 j 10:00	11°♄14'14			894 Dec 28 j 15:03	15°♄	
max. Earth dist.	889 Sep 01 j 11:29	13°♄50'37	6.44236 AU	evening set	895 Jan 27 j 06:20	21°♄52'41	
conjunction	889 Sep 02 j 11:31	14°♄03'38	1°06'47	conjunction	895 Feb 09 j 06:36	25°♄00'39	0°-56'-31
minimum elong	889 Sep 02 j 11:30	14°♄03'37	1°06'47	minimum elong	895 Feb 09 j 06:34	25°♄00'38	0°56'32
morning rise	889 Sep 15 j 10:11	16°♄51'36		max. Earth dist.	895 Feb 09 j 13:29	25°♄04'48	5.98446 AU
	889 Nov 24 j 18:29	0°♄		morning rise	895 Feb 22 j 09:43	28°♄10'15	
retrograde	890 Jan 13 j 12:48	3°♄38'20			895 Mar 02 j 02:00	0°♄	
	890 Mar 05 j 05:49	30°♄		retrograde	895 Jul 04 j 10:54	18°♄40'10	
opposition	890 Mar 15 j 01:14	28°♄45'15	1°40'20	opposition	895 Sep 02 j 12:06	13°♄38'49	-1°-38'-50
min. Earth dist.	890 Mar 16 j 00:58	28°♄37'37	4.44618 AU	min. Earth dist.	895 Sep 01 j 19:19	13°♄44'25	3.96160 AU
direct	890 May 16 j 18:10	23°♄42'58		direct	895 Oct 30 j 16:08	8°♄45'07	
	890 Jul 24 j 18:27	0°♄		evening set	896 Mar 04 j 02:17	28°♄25'40	
evening set	890 Sep 20 j 06:18	11°♄17'15			896 Mar 10 j 15:19	0°♄	
max. Earth dist.	890 Oct 01 j 07:29	13°♄41'35	6.43015 AU				
				conjunction	896 Mar 17 j 10:26	1°♄38'19	-1°-8'-3
conjunction	890 Oct 03 j 01:32	14°♄04'33	1°06'55	minimum elong	896 Mar 17 j 10:26	1°♄38'20	1°08'04

max. Earth dist.	896 Mar 19 j 00:01	2°♏00'59	5.95979 AU	morning rise	901 Sep 19 j 17:04	21°♏11'40	
morning rise	896 Mar 30 j 21:44	4°♏52'38			901 Nov 02 j 04:34	0°♏	
retrograde	896 Aug 10 j 04:24	25°♏27'43		retrograde	902 Jan 17 j 17:41	7°♏57'35	
opposition	896 Oct 08 j 20:05	20°♏23'14	-1°-35'-22	opposition	902 Mar 19 j 08:43	3°♏04'40	1°40'06
min. Earth dist.	896 Oct 07 j 13:16	20°♏33'43	3.98228 AU	min. Earth dist.	902 Mar 20 j 09:16	2°♏56'47	4.44529 AU
direct	896 Dec 05 j 17:24	15°♏27'34			902 Apr 14 j 05:42	30°♏♏	
	897 Mar 20 j 02:13	0°♏		direct	902 May 21 j 01:45	28°♏02'31	
evening set	897 Apr 10 j 15:44	4°♏58'36			902 Jun 27 j 02:33	0°♏	
				evening set	902 Sep 24 j 13:04	15°♏37'00	
conjunction	897 Apr 24 j 07:22	8°♏11'46	0°-52'-57	max. Earth dist.	902 Oct 05 j 11:44	18°♏00'15	6.42434 AU
minimum elong	897 Apr 24 j 07:25	8°♏11'47	0°52'59				
max. Earth dist.	897 Apr 26 j 13:44	8°♏43'51	6.02309 AU	conjunction	902 Oct 07 j 07:30	18°♏24'13	1°05'24
morning rise	897 May 08 j 01:14	11°♏25'54		minimum elong	902 Oct 07 j 07:31	18°♏24'14	1°05'23
	897 May 23 j 12:05	15°♏		morning rise	902 Oct 19 j 23:33	21°♏10'21	
	897 Aug 17 j 17:26	0°♏			902 Dec 02 j 01:14	0°♏	
retrograde	897 Sep 15 j 01:20	1°♏17'43		retrograde	903 Feb 17 j 19:58	8°♏10'16	
	897 Oct 13 j 02:28	30°♏♏		opposition	903 Apr 19 j 16:34	3°♏18'27	1°23'28
min. Earth dist.	897 Nov 12 j 03:57	26°♏24'14	4.08079 AU	min. Earth dist.	903 Apr 21 j 03:37	3°♏07'18	4.38827 AU
opposition	897 Nov 13 j 13:43	26°♏12'43	0°-55'-22		903 May 18 j 03:21	30°♏♏	
direct	898 Jan 11 j 00:24	21°♏14'05		direct	903 Jun 21 j 08:51	28°♏18'02	
	898 Mar 30 j 17:50	0°♏			903 Jul 25 j 12:19	0°♏	
evening set	898 May 17 j 13:20	10°♏14'39			903 Oct 20 j 03:37	15°♏	
				evening set	903 Oct 25 j 05:23	16°♏07'17	
conjunction	898 May 31 j 07:47	13°♏23'28	0°-18'-39	max. Earth dist.	903 Nov 04 j 19:07	18°♏28'51	6.33604 AU
minimum elong	898 May 31 j 07:49	13°♏23'29	0°18'39				
max. Earth dist.	898 Jun 02 j 07:12	13°♏50'36	6.14788 AU	conjunction	903 Nov 06 j 21:00	18°♏56'47	0°44'44
morning rise	898 Jun 14 j 02:56	16°♏32'18		minimum elong	903 Nov 06 j 21:02	18°♏56'48	0°44'45
	898 Aug 19 j 18:03	0°♏		morning rise	903 Nov 19 j 11:11	21°♏45'47	
retrograde	898 Oct 18 j 13:48	5°♏16'47			903 Dec 28 j 08:03	0°♏	
asc. node	898 Dec 05 j 05:12	1°♏49'29		retrograde	904 Mar 21 j 12:55	9°♏26'31	
min. Earth dist.	898 Dec 16 j 04:10	0°♏22'14	4.21819 AU	opposition	904 May 21 j 12:41	4°♏34'08	0°42'22
opposition	898 Dec 17 j 04:45	0°♏13'56	0°01'46	min. Earth dist.	904 May 22 j 22:31	4°♏23'20	4.27337 AU
	898 Dec 18 j 21:56	30°♏♏			904 Jul 06 j 07:53	30°♏♏	
direct	899 Feb 14 j 21:11	25°♏12'35		direct	904 Jul 22 j 09:14	29°♏36'06	
	899 Apr 13 j 06:02	0°♏			904 Aug 07 j 11:41	0°♏	
evening set	899 Jun 21 j 18:57	13°♏36'21		evening set	904 Nov 24 j 18:23	17°♏54'20	
				max. Earth dist.	904 Dec 05 j 17:41	20°♏25'47	6.20408 AU
conjunction	899 Jul 05 j 10:36	16°♏37'52	0°20'33				
minimum elong	899 Jul 05 j 10:34	16°♏37'51	0°20'33	conjunction	904 Dec 07 j 10:22	20°♏49'17	0°10'10
max. Earth dist.	899 Jul 06 j 13:49	16°♏52'59	6.28721 AU	minimum elong	904 Dec 07 j 10:22	20°♏49'17	0°10'10
morning rise	899 Jul 19 j 00:38	19°♏38'24		behind sun begin	904 Dec 07 j 03:57	20°♏45'35	
	899 Sep 07 j 18:00	0°♏		behind sun end	904 Dec 07 j 16:48	20°♏52'58	
retrograde	899 Nov 19 j 03:20	7°♏20'03		morning rise	904 Dec 20 j 02:13	23°♏44'28	
opposition	900 Jan 18 j 00:16	2°♏20'54	0°54'52		905 Jan 17 j 04:05	0°♏	
min. Earth dist.	900 Jan 17 j 15:21	2°♏23'52	4.34754 AU	desc. node	905 Mar 19 j 06:22	10°♏20'34	
	900 Feb 05 j 10:41	30°♏♏		retrograde	905 Apr 25 j 14:30	12°♏27'01	
direct	900 Mar 19 j 00:56	27°♏18'05		opposition	905 Jun 25 j 08:59	7°♏32'33	0°-14'-38
	900 May 01 j 01:53	0°♏		min. Earth dist.	905 Jun 26 j 08:18	7°♏25'02	4.13274 AU
	900 Jul 23 j 05:27	15°♏		direct	905 Aug 24 j 23:05	2°♏37'05	
evening set	900 Jul 24 j 02:28	15°♏11'21		evening set	905 Dec 28 j 00:04	21°♏32'20	
conjunction	900 Aug 06 j 10:50	18°♏05'21	0°51'56	conjunction	906 Jan 09 j 19:18	24°♏34'27	0°-29'-18
minimum elong	900 Aug 06 j 10:48	18°♏05'20	0°51'55	minimum elong	906 Jan 09 j 19:17	24°♏34'26	0°29'19
max. Earth dist.	900 Aug 06 j 08:51	18°♏04'17	6.39654 AU	max. Earth dist.	906 Jan 08 j 23:24	24°♏22'37	6.06733 AU
morning rise	900 Aug 19 j 16:45	20°♏57'59		morning rise	906 Jan 22 j 16:15	27°♏37'40	
	900 Oct 03 j 04:24	0°♏			906 Feb 01 j 19:05	0°♏	
retrograde	900 Dec 18 j 13:19	7°♏58'06			906 Apr 22 j 14:25	15°♏	
opposition	901 Feb 16 j 18:28	3°♏02'35	1°29'56	retrograde	906 Jun 01 j 15:41	17°♏27'15	
min. Earth dist.	901 Feb 17 j 04:15	2°♏59'24	4.43041 AU		906 Jul 12 j 00:14	15°♏	
	901 Mar 13 j 22:12	30°♏♏		opposition	906 Aug 01 j 02:19	12°♏29'21	-1°-10'-9
direct	901 Apr 19 j 22:26	27°♏59'31		min. Earth dist.	906 Aug 01 j 04:18	12°♏28'42	4.01217 AU
	901 May 27 j 06:14	0°♏		direct	906 Sep 29 j 04:21	7°♏35'39	
evening set	901 Aug 24 j 18:56	15°♏35'28			906 Dec 08 j 16:01	15°♏	
				evening set	907 Feb 01 j 08:05	27°♏03'54	
conjunction	901 Sep 06 j 19:34	18°♏24'18	1°07'56		907 Feb 13 j 12:12	0°♏	
minimum elong	901 Sep 06 j 19:33	18°♏24'17	1°07'56				
max. Earth dist.	901 Sep 05 j 17:44	18°♏10'18	6.44620 AU	conjunction	907 Feb 14 j 09:27	0°♏12'51	0°-59'-39

minimum elong	907 Feb 14 j 09:25	0° ✕ 12'49	0°59'39	max. Earth dist.	912 Aug 10 j 15:34	22° Ω 23'41	6.40988 AU
max. Earth dist.	907 Feb 14 j 21:35	0° ✕ 20'10	5.97400 AU	morning rise	912 Aug 24 j 00:51	25° Ω 17'50	
morning rise	907 Feb 27 j 13:37	3° ✕ 23'24			912 Sep 15 j 07:46	0° η	
retrograde	907 Jul 09 j 20:42	23° ✕ 58'00		retrograde	912 Dec 22 j 15:44	12° η 13'39	
opposition	907 Sep 07 j 19:19	18° ✕ 56'10	-1°-40'-53	opposition	913 Feb 20 j 22:45	7° η 18'37	1°32'49
min. Earth dist.	907 Sep 07 j 00:32	19° ✕ 02'28	3.95747 AU	min. Earth dist.	913 Feb 21 j 10:40	7° η 14'44	4.43835 AU
direct	907 Nov 04 j 21:52	14° ✕ 02'22		direct	913 Apr 24 j 04:51	2° η 15'36	
	908 Feb 22 j 14:19	0° Υ		evening set	913 Aug 29 j 00:58	19° η 50'02	
evening set	908 Mar 09 j 08:56	3° Υ 43'53		max. Earth dist.	913 Sep 09 j 17:34	22° η 21'38	6.44792 AU
conjunction	908 Mar 22 j 18:19	6° Υ 57'00	-1°-7'-29	conjunction	913 Sep 11 j 00:27	22° η 38'23	1°08'40
minimum elong	908 Mar 22 j 18:20	6° Υ 57'00	1°07'29	minimum elong	913 Sep 11 j 00:26	22° η 38'22	1°08'40
max. Earth dist.	908 Mar 24 j 12:30	7° Υ 22'22	5.96253 AU	morning rise	913 Sep 23 j 21:10	25° η 25'21	
morning rise	908 Apr 05 j 06:47	10° Υ 11'41			913 Oct 15 j 14:09	0° ♎	
	908 Jul 25 j 06:18	0° ♎		retrograde	914 Jan 21 j 23:33	12° ♎ 11'32	
retrograde	908 Aug 15 j 09:13	0° ♎ 43'39		opposition	914 Mar 23 j 14:08	7° ♎ 18'53	1°39'22
	908 Sep 05 j 07:27	30° ♎ Υ		min. Earth dist.	914 Mar 24 j 17:51	7° ♎ 10'00	4.44075 AU
min. Earth dist.	908 Oct 12 j 15:16	25° Υ 50'07	3.99195 AU	direct	914 May 25 j 08:39	2° ♎ 16'50	
opposition	908 Oct 14 j 00:00	25° Υ 38'59	-1°-31'-35	evening set	914 Sep 28 j 17:28	19° ♎ 52'53	
direct	908 Dec 10 j 20:56	20° Υ 43'03		max. Earth dist.	914 Oct 09 j 13:55	22° ♎ 15'16	6.41371 AU
	909 Feb 28 j 21:47	0° ♎		conjunction	914 Oct 11 j 11:32	22° ♎ 40'18	1°03'34
evening set	909 Apr 15 j 22:27	10° ♎ 10'42		minimum elong	914 Oct 11 j 11:33	22° ♎ 40'19	1°03'34
conjunction	909 Apr 29 j 14:39	13° ♎ 23'26	0°-48'-58	morning rise	914 Oct 24 j 03:04	25° ♎ 26'42	
minimum elong	909 Apr 29 j 14:42	13° ♎ 23'28	0°48'59		914 Nov 14 j 10:18	0° ♏	
max. Earth dist.	909 May 01 j 20:40	13° ♎ 55'11	6.03877 AU	retrograde	915 Feb 22 j 04:44	12° ♏ 31'32	
	909 May 06 j 11:05	15° ♎		opposition	915 Apr 24 j 02:27	7° ♏ 39'43	1°19'08
morning rise	909 May 13 j 09:11	16° ♎ 37'05		min. Earth dist.	915 Apr 25 j 13:30	7° ♏ 28'33	4.37221 AU
	909 Jul 16 j 01:14	0° ♏		direct	915 Jun 25 j 15:16	2° ♏ 39'33	
retrograde	909 Sep 19 j 21:01	6° ♏ 19'39			915 Oct 03 j 20:38	15° ♏	
min. Earth dist.	909 Nov 17 j 00:54	1° ♏ 26'11	4.10066 AU	evening set	915 Oct 29 j 12:22	20° ♏ 33'17	
opposition	909 Nov 18 j 10:20	1° ♏ 14'47	0°-47'-50	max. Earth dist.	915 Nov 09 j 02:27	22° ♏ 55'43	6.31578 AU
	909 Nov 27 j 16:15	30° ♏ ♎		conjunction	915 Nov 11 j 03:52	23° ♏ 23'32	0°40'38
direct	910 Jan 16 j 01:13	26° ♏ 15'42		minimum elong	915 Nov 11 j 03:54	23° ♏ 23'33	0°40'37
	910 Mar 06 j 05:26	0° ♏		morning rise	915 Nov 23 j 18:08	26° ♏ 13'23	
evening set	910 May 22 j 14:43	15° ♏ 10'18			915 Dec 10 j 21:10	0° ♐	
conjunction	910 Jun 05 j 09:13	18° ♏ 18'07	0°-13'-8	retrograde	916 Mar 26 j 08:25	14° ♐ 03'04	
minimum elong	910 Jun 05 j 09:14	18° ♏ 18'07	0°13'09	opposition	916 May 26 j 06:04	9° ♐ 10'31	0°35'06
behind sun begin	910 Jun 05 j 04:28	18° ♏ 15'25		min. Earth dist.	916 May 27 j 16:11	8° ♐ 59'37	4.25006 AU
behind sun end	910 Jun 05 j 13:59	18° ♏ 20'49		direct	916 Jul 26 j 23:20	4° ♐ 12'49	
max. Earth dist.	910 Jun 07 j 07:57	18° ♏ 44'43	6.17043 AU	evening set	916 Nov 29 j 07:22	22° ♐ 37'33	
morning rise	910 Jun 19 j 03:45	21° ♏ 25'41		max. Earth dist.	916 Dec 10 j 08:19	25° ♐ 10'48	6.17978 AU
	910 Jul 29 j 02:16	0° ♐		conjunction	916 Dec 11 j 23:42	25° ♐ 33'39	0°04'42
asc. node	910 Oct 15 j 09:17	9° ♐ 53'35		minimum elong	916 Dec 11 j 23:42	25° ♐ 33'39	0°04'42
retrograde	910 Oct 23 j 02:42	9° ♐ 59'27		behind sun begin	916 Dec 11 j 15:54	25° ♐ 29'09	
opposition	910 Dec 21 j 17:41	4° ♐ 57'05	0°09'47	behind sun end	916 Dec 12 j 07:31	25° ♐ 38'10	
min. Earth dist.	910 Dec 20 j 18:56	5° ♐ 04'46	4.24107 AU	morning rise	916 Dec 24 j 16:16	28° ♐ 30'09	
	911 Feb 12 j 19:44	30° ♐ ♏			916 Dec 31 j 04:38	0° ♑	
direct	911 Feb 19 j 15:04	29° ♏ 55'29		desc. node	917 Jan 27 j 06:24	5° ♑ 57'45	
	911 Feb 26 j 10:38	0° ♑		retrograde	917 Apr 30 j 16:21	17° ♑ 23'49	
evening set	911 Jun 26 j 12:43	18° ♑ 13'07		opposition	917 Jun 30 j 10:38	12° ♑ 28'54	0°-23'-2
conjunction	911 Jul 10 j 03:21	21° ♑ 13'21	0°25'34	min. Earth dist.	917 Jul 01 j 06:18	12° ♑ 22'32	4.10953 AU
minimum elong	911 Jul 10 j 03:19	21° ♑ 13'20	0°25'35	direct	917 Aug 29 j 18:00	7° ♑ 33'45	
max. Earth dist.	911 Jul 11 j 01:45	21° ♑ 25'44	6.30842 AU	evening set	918 Jan 01 j 21:11	26° ♑ 35'39	
morning rise	911 Jul 23 j 16:28	24° ♑ 12'34		conjunction	918 Jan 14 j 17:15	29° ♑ 38'59	0°-34'-28
	911 Aug 19 j 20:46	0° ♒		minimum elong	918 Jan 14 j 17:13	29° ♑ 38'57	0°34'30
retrograde	911 Nov 23 j 09:00	11° ♒ 45'54		max. Earth dist.	918 Jan 14 j 02:41	29° ♑ 30'17	6.04738 AU
opposition	912 Jan 22 j 07:24	6° ♒ 47'15	1°00'57		918 Jan 16 j 04:28	0° ♒	
min. Earth dist.	912 Jan 22 j 01:20	6° ♒ 49'15	4.36553 AU	morning rise	918 Jan 27 j 15:03	2° ♒ 43'28	
direct	912 Mar 23 j 12:44	1° ♒ 44'16			918 Mar 25 j 00:44	15° ♒	
	912 Jul 06 j 23:29	15° ♒		retrograde	918 Jun 07 j 02:35	22° ♒ 42'31	
evening set	912 Jul 28 j 13:00	19° ♒ 33'16		opposition	918 Aug 06 j 10:32	17° ♒ 44'01	-1°-16'-30
conjunction	912 Aug 10 j 20:22	22° ♒ 26'17	0°55'07	min. Earth dist.	918 Aug 06 j 09:41	17° ♒ 44'18	3.99759 AU
minimum elong	912 Aug 10 j 20:20	22° ♒ 26'16	0°55'07		918 Aug 28 j 11:34	15° ♒ ♒	

direct	918 Oct 04 j 09:17	12° \approx 50'25		evening set	924 Aug 02 j 00:00	23° Ω 55'43	
	918 Nov 09 j 17:42	15° \approx					
	919 Jan 27 j 13:55	0° \mathbb{X}		conjunction	924 Aug 15 j 06:09	26° Ω 47'54	0°58'03
evening set	919 Feb 06 j 12:47	2° \mathbb{X} 22'30		minimum elong	924 Aug 15 j 06:07	26° Ω 47'52	0°58'04
				max. Earth dist.	924 Aug 14 j 20:04	26° Ω 42'25	6.41951 AU
conjunction	919 Feb 19 j 15:15	5° \mathbb{X} 32'17	-1°-2'-20	morning rise	924 Aug 28 j 09:35	29° Ω 38'37	
minimum elong	919 Feb 19 j 15:13	5° \mathbb{X} 32'15	1°02'21		924 Aug 30 j 01:19	0° \mathbb{M}	
max. Earth dist.	919 Feb 20 j 09:02	5° \mathbb{X} 43'02	5.96612 AU	retrograde	924 Dec 26 j 21:08	16° \mathbb{M} 31'31	
morning rise	919 Mar 04 j 20:36	8° \mathbb{X} 43'42		opposition	925 Feb 25 j 04:41	11° \mathbb{M} 36'53	1°35'18
retrograde	919 Jul 15 j 06:48	29° \mathbb{X} 21'00		min. Earth dist.	925 Feb 25 j 19:28	11° \mathbb{M} 32'05	4.44265 AU
min. Earth dist.	919 Sep 12 j 05:55	24° \mathbb{X} 26'05	3.95754 AU	direct	925 Apr 28 j 13:11	6° \mathbb{M} 33'56	
opposition	919 Sep 13 j 04:09	24° \mathbb{X} 18'36	-1°-42'-4	evening set	925 Sep 02 j 08:07	24° \mathbb{M} 07'54	
direct	919 Nov 10 j 03:40	19° \mathbb{X} 24'36		max. Earth dist.	925 Sep 13 j 22:19	26° \mathbb{M} 38'18	6.44653 AU
	920 Feb 03 j 21:11	0° \mathbb{Y}					
evening set	920 Mar 14 j 17:25	9° \mathbb{Y} 05'12		conjunction	925 Sep 15 j 06:50	26° \mathbb{M} 55'57	1°09'04
				minimum elong	925 Sep 15 j 06:50	26° \mathbb{M} 55'57	1°09'03
conjunction	920 Mar 28 j 03:44	12° \mathbb{Y} 18'24	-1°-6'-20	morning rise	925 Sep 28 j 02:30	29° \mathbb{M} 42'37	
minimum elong	920 Mar 28 j 03:45	12° \mathbb{Y} 18'25	1°06'21		925 Sep 29 j 10:47	0° Ω	
max. Earth dist.	920 Mar 30 j 00:04	12° \mathbb{Y} 45'01	5.97005 AU	retrograde	926 Jan 26 j 05:48	16° Ω 30'10	
morning rise	920 Apr 10 j 17:18	15° \mathbb{Y} 33'10		opposition	926 Mar 27 j 21:57	11° Ω 37'47	1°38'06
	920 Jun 17 j 17:20	0° \mathbb{Z}		min. Earth dist.	926 Mar 29 j 02:50	11° Ω 28'33	4.43389 AU
retrograde	920 Aug 20 j 11:59	5° \mathbb{Z} 59'32		direct	926 May 29 j 15:38	6° Ω 36'02	
min. Earth dist.	920 Oct 17 j 17:31	1° \mathbb{Z} 06'10	4.00585 AU	evening set	926 Oct 03 j 00:20	24° Ω 14'12	
opposition	920 Oct 19 j 03:30	0° \mathbb{Z} 54'34	-1°-27'-2	max. Earth dist.	926 Oct 13 j 17:51	26° Ω 35'29	6.40182 AU
	920 Oct 25 j 20:42	30° \mathbb{R} \mathbb{Y}					
direct	920 Dec 16 j 02:28	25° \mathbb{Y} 58'09		conjunction	926 Oct 15 j 17:43	27° Ω 01'51	1°01'20
	921 Feb 04 j 12:38	0° \mathbb{Z}		minimum elong	926 Oct 15 j 17:45	27° Ω 01'52	1°01'20
	921 Apr 19 j 16:43	15° \mathbb{Z}		morning rise	926 Oct 28 j 09:01	29° Ω 48'36	
evening set	921 Apr 21 j 04:39	15° \mathbb{Z} 20'53			926 Oct 29 j 05:51	0° \mathbb{M}	
					927 Jan 21 j 12:09	15° \mathbb{M}	
conjunction	921 May 04 j 21:36	18° \mathbb{Z} 33'03	0°-44'-36	retrograde	927 Feb 26 j 18:47	16° \mathbb{M} 58'51	
minimum elong	921 May 04 j 21:39	18° \mathbb{Z} 33'05	0°44'37		927 Apr 04 j 07:30	15° \mathbb{R} \mathbb{M}	
max. Earth dist.	921 May 07 j 04:55	19° \mathbb{Z} 05'25	6.05766 AU	opposition	927 Apr 28 j 15:22	12° \mathbb{M} 07'06	1°14'14
morning rise	921 May 18 j 16:18	21° \mathbb{Z} 45'55		min. Earth dist.	927 Apr 30 j 03:48	11° \mathbb{M} 55'30	4.35593 AU
	921 Jun 24 j 18:41	0° \mathbb{I}		direct	927 Jun 30 j 02:47	7° \mathbb{M} 07'17	
retrograde	921 Sep 24 j 17:23	11° \mathbb{I} 18'11			927 Sep 15 j 06:36	15° \mathbb{M}	
min. Earth dist.	921 Nov 21 j 21:56	6° \mathbb{I} 24'26	4.12223 AU	evening set	927 Nov 02 j 21:49	25° \mathbb{M} 05'25	
opposition	921 Nov 23 j 05:57	6° \mathbb{I} 13'32	0°-39'-59	max. Earth dist.	927 Nov 13 j 12:44	27° \mathbb{M} 28'57	6.29656 AU
direct	922 Jan 21 j 01:21	1° \mathbb{I} 14'04					
evening set	922 May 27 j 14:55	20° \mathbb{I} 02'20		conjunction	927 Nov 15 j 13:24	27° \mathbb{M} 56'27	0°36'10
				minimum elong	927 Nov 15 j 13:26	27° \mathbb{M} 56'29	0°36'09
conjunction	922 Jun 10 j 09:02	23° \mathbb{I} 09'01	0°-7'-33		927 Nov 24 j 16:01	0° \mathbb{Z}	
minimum elong	922 Jun 10 j 09:02	23° \mathbb{I} 09'01	0°07'34	morning rise	927 Nov 28 j 03:46	0° \mathbb{Z} 47'10	
behind sun begin	922 Jun 10 j 01:29	23° \mathbb{I} 04'46		retrograde	928 Mar 31 j 03:52	18° \mathbb{Z} 45'32	
behind sun end	922 Jun 10 j 16:35	23° \mathbb{I} 13'17		opposition	928 May 31 j 02:04	13° \mathbb{Z} 52'48	0°27'24
max. Earth dist.	922 Jun 12 j 04:30	23° \mathbb{I} 33'38	6.19274 AU	min. Earth dist.	928 Jun 01 j 09:50	13° \mathbb{Z} 42'39	4.22933 AU
morning rise	922 Jun 24 j 03:10	26° \mathbb{I} 15'23		direct	928 Jul 31 j 13:44	8° \mathbb{Z} 55'35	
	922 Jul 11 j 01:24	0° \mathbb{S}		evening set	928 Dec 03 j 22:23	27° \mathbb{Z} 25'52	
asc. node	922 Aug 25 j 01:33	8° \mathbb{S} 48'03		desc. node	928 Dec 06 j 14:30	28° \mathbb{Z} 02'59	
retrograde	922 Oct 27 j 12:38	14° \mathbb{S} 39'01			928 Dec 14 j 23:38	0° \mathbb{Z}	
min. Earth dist.	922 Dec 25 j 08:42	9° \mathbb{S} 44'11	4.26224 AU	max. Earth dist.	928 Dec 15 j 03:05	0° \mathbb{Z} 02'01	6.15951 AU
opposition	922 Dec 26 j 05:41	9° \mathbb{S} 37'08	0°17'43				
direct	923 Feb 24 j 07:20	4° \mathbb{S} 35'15		conjunction	928 Dec 16 j 15:00	0° \mathbb{Z} 22'58	0°-1'-1
evening set	923 Jul 01 j 05:46	22° \mathbb{S} 47'39		minimum elong	928 Dec 16 j 15:01	0° \mathbb{Z} 22'58	0°01'02
				behind sun begin	928 Dec 16 j 07:01	0° \mathbb{Z} 18'20	
conjunction	923 Jul 14 j 19:33	25° \mathbb{S} 46'43	0°30'27	behind sun end	928 Dec 16 j 23:01	0° \mathbb{Z} 27'37	
minimum elong	923 Jul 14 j 19:31	25° \mathbb{S} 46'42	0°30'27	morning rise	928 Dec 29 j 08:08	3° \mathbb{Z} 20'35	
max. Earth dist.	923 Jul 15 j 14:17	25° \mathbb{S} 57'03	6.32698 AU	retrograde	929 May 05 j 21:35	22° \mathbb{Z} 24'03	
morning rise	923 Jul 28 j 07:25	28° \mathbb{S} 44'40		opposition	929 Jul 05 j 13:57	17° \mathbb{Z} 28'44	0°-31'-23
	923 Aug 03 j 01:55	0° Ω		min. Earth dist.	929 Jul 06 j 07:25	17° \mathbb{Z} 23'04	4.09146 AU
	923 Oct 31 j 06:14	15° Ω		direct	929 Sep 03 j 17:40	12° \mathbb{Z} 33'58	
retrograde	923 Nov 27 j 15:40	16° Ω 10'53			929 Dec 30 j 16:49	0° \approx	
	923 Dec 24 j 20:13	15° \mathbb{R} Ω		evening set	930 Jan 06 j 19:05	1° \approx 40'34	
opposition	924 Jan 26 j 14:36	11° Ω 12'51	1°06'44				
min. Earth dist.	924 Jan 26 j 11:31	11° Ω 13'52	4.38024 AU	conjunction	930 Jan 19 j 15:53	4° \approx 44'50	0°-39'-25
direct	924 Mar 28 j 00:09	6° Ω 09'50		minimum elong	930 Jan 19 j 15:51	4° \approx 44'49	0°39'25
	924 Jun 19 j 00:16	15° Ω		max. Earth dist.	930 Jan 19 j 06:11	4° \approx 39'02	6.03335 AU

morning rise	930 Feb 01 j 14:36	7°≈50'21		min. Earth dist.	936 Jan 30 j 19:22	15°Ω35'15	4.39030 AU
	930 Mar 04 j 18:16	15°≈			936 Feb 04 j 06:35	15°RΩ	
retrograde	930 Jun 12 j 10:47	27°≈56'12		direct	936 Apr 01 j 08:40	10°Ω31'50	
opposition	930 Aug 11 j 17:29	22°≈57'11	-1°-22'-12		936 May 28 j 04:08	15°Ω	
min. Earth dist.	930 Aug 11 j 12:46	22°≈58'44	3.98943 AU	evening set	936 Aug 06 j 09:32	28°Ω16'00	
direct	930 Oct 09 j 11:37	18°≈03'43			936 Aug 14 j 10:08	0°mp	
	931 Jan 09 j 18:44	0°X					
evening set	931 Feb 11 j 16:20	7°X37'27		conjunction	936 Aug 19 j 14:40	1°mp07'32	1°00'37
				minimum elong	936 Aug 19 j 14:39	1°mp07'31	1°00'37
conjunction	931 Feb 24 j 19:39	10°X47'43	-1°-4'-29	max. Earth dist.	936 Aug 19 j 01:28	1°mp00'22	6.42484 AU
minimum elong	931 Feb 24 j 19:38	10°X47'43	1°04'30	morning rise	936 Sep 01 j 16:55	3°mp57'36	
max. Earth dist.	931 Feb 25 j 17:10	11°X00'44	5.96433 AU	retrograde	936 Dec 31 j 02:05	20°mp48'56	
morning rise	931 Mar 10 j 02:10	13°X59'43		opposition	937 Mar 01 j 10:25	15°mp54'43	1°37'15
	931 May 25 j 23:55	0°Y		min. Earth dist.	937 Mar 02 j 03:36	15°mp49'09	4.44320 AU
retrograde	931 Jul 20 j 11:52	4°Y37'13		direct	937 May 02 j 21:09	10°mp51'55	
	931 Sep 15 j 05:18	30°R X		evening set	937 Sep 06 j 15:18	28°mp26'18	
min. Earth dist.	931 Sep 17 j 08:44	29°X42'40	3.96244 AU		937 Sep 13 j 20:33	0°Δ	
opposition	931 Sep 18 j 09:34	29°X34'17	-1°-42'-20	max. Earth dist.	937 Sep 18 j 00:51	0°Δ54'28	6.44217 AU
direct	931 Nov 15 j 08:13	24°X40'02					
	932 Jan 12 j 15:01	0°Y		conjunction	937 Sep 19 j 13:05	1°Δ14'10	1°09'04
evening set	932 Mar 19 j 22:17	14°Y18'12		minimum elong	937 Sep 19 j 13:05	1°Δ14'10	1°09'04
				morning rise	937 Oct 02 j 08:08	4°Δ00'44	
conjunction	932 Apr 02 j 09:46	17°Y31'23	-1°-4'-41	retrograde	938 Jan 30 j 14:14	20°Δ50'27	
minimum elong	932 Apr 02 j 09:48	17°Y31'24	1°04'42	opposition	938 Apr 01 j 06:37	15°Δ58'12	1°36'16
max. Earth dist.	932 Apr 04 j 09:57	18°Y00'12	5.98108 AU	min. Earth dist.	938 Apr 02 j 13:00	15°Δ48'28	4.42513 AU
morning rise	932 Apr 16 j 00:05	20°Y45'59		direct	938 Jun 03 j 00:15	10°Δ56'37	
	932 May 26 j 22:12	0°Z		evening set	938 Oct 07 j 07:20	28°Δ37'07	
retrograde	932 Aug 25 j 12:42	11°Z05'37			938 Oct 13 j 14:15	0°M	
min. Earth dist.	932 Oct 22 j 17:04	6°Z12'02	4.02163 AU	max. Earth dist.	938 Oct 18 j 01:19	0°M59'04	6.38937 AU
opposition	932 Oct 24 j 02:47	6°Z00'32	-1°-21'-56				
direct	932 Dec 21 j 04:23	1°Z03'43		conjunction	938 Oct 20 j 00:28	1°M25'08	0°58'44
	933 Apr 02 j 16:48	15°Z		minimum elong	938 Oct 20 j 00:30	1°M25'09	0°58'43
evening set	933 Apr 26 j 06:45	20°Z21'14		morning rise	938 Nov 01 j 15:18	4°M12'14	
					938 Dec 25 j 04:50	15°M	
conjunction	933 May 10 j 00:03	23°Z32'44	0°-40'-4	retrograde	939 Mar 03 j 07:17	21°M27'54	
minimum elong	933 May 10 j 00:06	23°Z32'45	0°40'04	opposition	939 May 03 j 05:11	16°M36'04	1°08'49
max. Earth dist.	933 May 12 j 05:58	24°Z04'07	6.07656 AU	min. Earth dist.	939 May 04 j 16:47	16°M24'44	4.34054 AU
morning rise	933 May 23 j 19:07	26°Z44'50			939 May 16 j 00:24	15°RM	
	933 Jun 07 j 01:29	0°II		direct	939 Jul 04 j 13:43	11°M36'37	
retrograde	933 Sep 29 j 07:08	16°II07'12			939 Aug 22 j 07:00	15°M	
opposition	933 Nov 27 j 21:08	11°II02'49	0°-32'-10	evening set	939 Nov 07 j 07:32	29°M38'24	
min. Earth dist.	933 Nov 26 j 13:42	11°II13'31	4.14229 AU		939 Nov 08 j 21:55	0°Z	
direct	934 Jan 25 j 19:28	6°II02'56		max. Earth dist.	939 Nov 17 j 22:58	2°Z02'51	6.27939 AU
evening set	934 Jun 01 j 11:18	24°II45'50					
				conjunction	939 Nov 19 j 22:55	2°Z30'04	0°31'27
conjunction	934 Jun 15 j 05:09	27°II51'32	0°-2'-6	minimum elong	939 Nov 19 j 22:57	2°Z30'05	0°31'27
minimum elong	934 Jun 15 j 05:08	27°II51'32	0°02'06	morning rise	939 Dec 02 j 13:35	5°Z21'35	
behind sun begin	934 Jun 14 j 20:47	27°II46'50		retrograde	940 Apr 05 j 00:52	23°Z27'50	
behind sun end	934 Jun 15 j 13:30	27°II56'13		opposition	940 Jun 04 j 22:18	18°Z34'45	0°19'29
max. Earth dist.	934 Jun 16 j 20:50	28°II13'56	6.21245 AU	min. Earth dist.	940 Jun 06 j 04:59	18°Z24'56	4.21128 AU
	934 Jun 24 j 17:17	0°S		direct	940 Aug 05 j 07:02	13°Z37'51	
morning rise	934 Jun 28 j 22:39	0°S56'46		desc. node	940 Oct 16 j 09:32	20°Z54'26	
asc. node	934 Jul 06 j 00:13	2°S31'02			940 Nov 28 j 22:42	0°Z	
retrograde	934 Oct 31 j 22:02	19°S11'38		evening set	940 Dec 08 j 12:51	2°Z12'29	
opposition	934 Dec 30 j 14:48	14°S10'16	0°25'18	max. Earth dist.	940 Dec 19 j 21:27	4°Z51'27	6.14213 AU
min. Earth dist.	934 Dec 29 j 21:04	14°S16'14	4.27984 AU				
direct	935 Feb 28 j 21:29	9°S08'10		conjunction	940 Dec 21 j 06:00	5°Z10'30	0°-6'-39
evening set	935 Jul 05 j 19:57	27°S16'35		minimum elong	940 Dec 21 j 05:59	5°Z10'29	0°06'41
	935 Jul 18 j 06:04	0°Ω		behind sun begin	940 Dec 20 j 22:29	5°Z06'07	
				behind sun end	940 Dec 21 j 13:29	5°Z14'51	
conjunction	935 Jul 19 j 08:53	0°Ω14'44	0°35'02	morning rise	941 Jan 02 j 23:38	8°Z09'05	
minimum elong	935 Jul 19 j 08:50	0°Ω14'42	0°35'01	retrograde	941 May 10 j 23:39	27°Z21'01	
max. Earth dist.	935 Jul 19 j 23:30	0°Ω22'45	6.34112 AU	opposition	941 Jul 10 j 15:47	22°Z25'15	0°-39'-30
morning rise	935 Aug 01 j 19:45	3°Ω11'40		min. Earth dist.	941 Jul 11 j 06:07	22°Z20'36	4.07621 AU
	935 Sep 30 j 18:30	15°Ω		direct	941 Sep 08 j 14:20	17°Z30'45	
retrograde	935 Dec 01 j 19:43	20°Ω32'29			941 Dec 13 j 15:31	0°≈	
opposition	936 Jan 30 j 20:23	15°Ω34'55	1°12'02	evening set	942 Jan 11 j 15:46	6°≈41'12	

conjunction	942 Jan 24 j 13:11	9° \approx 46'17	0°-44'-2	conjunction	947 Jul 23 j 23:57	4° Ω 47'03	0°39'30
minimum elong	942 Jan 24 j 13:08	9° \approx 46'16	0°44'02	minimum elong	947 Jul 23 j 23:55	4° Ω 47'02	0°39'30
max. Earth dist.	942 Jan 24 j 06:43	9° \approx 42'25	6.02136 AU	max. Earth dist.	947 Jul 24 j 10:08	4° Ω 52'38	6.35393 AU
morning rise	942 Feb 06 j 12:54	12° \approx 52'45		morning rise	947 Aug 06 j 09:45	7° Ω 43'01	
	942 Feb 15 j 12:02	15° \approx			947 Sep 10 j 07:38	15° Ω	
	942 May 03 j 16:58	0° \mathbb{H}		retrograde	947 Dec 06 j 03:39	24° Ω 58'55	
retrograde	942 Jun 17 j 16:35	3° \mathbb{H} 04'47		opposition	948 Feb 04 j 04:20	20° Ω 01'56	1°17'03
	942 Aug 02 j 02:25	30° \mathbb{R} \approx		min. Earth dist.	948 Feb 04 j 06:26	20° Ω 01'15	4.40007 AU
opposition	942 Aug 16 j 22:30	28° \approx 05'09	-1°-27'-14		948 Apr 02 j 10:48	15° \mathbb{R} Ω	
min. Earth dist.	942 Aug 16 j 14:44	28° \approx 07'43	3.98199 AU	direct	948 Apr 05 j 21:11	14° Ω 58'55	
direct	942 Oct 14 j 13:15	23° \approx 11'39			948 Apr 09 j 07:37	15° Ω	
	942 Dec 20 j 10:18	0° \mathbb{H}			948 Jul 29 j 05:43	0° \mathbb{M}	
evening set	943 Feb 16 j 18:10	12° \mathbb{H} 47'05		evening set	948 Aug 10 j 20:53	2° \mathbb{M} 41'17	
				max. Earth dist.	948 Aug 23 j 08:56	5° \mathbb{M} 23'28	6.43099 AU
conjunction	943 Mar 01 j 22:42	15° \mathbb{H} 57'58	-1°-6'-7	conjunction	948 Aug 24 j 00:59	5° \mathbb{M} 32'10	1°02'55
minimum elong	943 Mar 01 j 22:41	15° \mathbb{H} 57'57	1°06'08	minimum elong	948 Aug 24 j 00:57	5° \mathbb{M} 32'09	1°02'54
max. Earth dist.	943 Mar 03 j 01:35	16° \mathbb{H} 14'13	5.96213 AU	morning rise	948 Sep 06 j 02:07	8° \mathbb{M} 21'33	
morning rise	943 Mar 15 j 06:09	19° \mathbb{H} 10'30		retrograde	949 Jan 04 j 07:43	25° \mathbb{M} 11'05	
	943 May 02 j 09:10	0° \mathbb{Y}		opposition	949 Mar 05 j 18:07	20° \mathbb{M} 17'14	1°38'44
retrograde	943 Jul 25 j 17:48	9° \mathbb{Y} 48'24		min. Earth dist.	949 Mar 06 j 12:23	20° \mathbb{M} 11'19	4.44588 AU
min. Earth dist.	943 Sep 22 j 11:19	4° \mathbb{Y} 53'50	3.96590 AU	direct	949 May 07 j 06:02	15° \mathbb{M} 14'37	
opposition	943 Sep 23 j 13:13	4° \mathbb{Y} 45'05	-1°-41'-51		949 Aug 28 j 19:12	0° $\underline{\Omega}$	
	943 Nov 10 j 22:49	30° \mathbb{R} \mathbb{H}		evening set	949 Sep 10 j 23:23	2° $\underline{\Omega}$ 48'28	
direct	943 Nov 20 j 11:22	29° \mathbb{H} 50'35		max. Earth dist.	949 Sep 22 j 07:46	5° $\underline{\Omega}$ 16'08	6.44137 AU
	943 Nov 29 j 23:54	0° \mathbb{Y}					
evening set	944 Mar 25 j 02:31	19° \mathbb{Y} 27'18		conjunction	949 Sep 23 j 20:20	5° $\underline{\Omega}$ 36'01	1°08'44
conjunction	944 Apr 07 j 14:53	22° \mathbb{Y} 40'32	-1°-2'-34	minimum elong	949 Sep 23 j 20:20	5° $\underline{\Omega}$ 36'02	1°08'44
minimum elong	944 Apr 07 j 14:56	22° \mathbb{Y} 40'33	1°02'35	morning rise	949 Oct 06 j 14:27	8° $\underline{\Omega}$ 22'18	
max. Earth dist.	944 Apr 09 j 16:05	23° \mathbb{Y} 09'51	5.98961 AU	retrograde	950 Feb 03 j 22:19	25° $\underline{\Omega}$ 13'05	
morning rise	944 Apr 21 j 06:17	25° \mathbb{Y} 55'10		opposition	950 Apr 05 j 16:14	20° $\underline{\Omega}$ 21'01	1°33'57
	944 May 08 j 18:49	0° \mathbb{B}		min. Earth dist.	950 Apr 06 j 23:33	20° $\underline{\Omega}$ 11'02	4.42097 AU
	944 Aug 03 j 19:03	15° \mathbb{B}		direct	950 Jun 07 j 10:43	15° $\underline{\Omega}$ 19'48	
retrograde	944 Aug 30 j 10:40	16° \mathbb{B} 09'01			950 Sep 27 j 16:12	0° \mathbb{M}	
	944 Sep 25 j 20:54	15° \mathbb{R} \mathbb{B}		evening set	950 Oct 11 j 14:20	3° \mathbb{M} 00'52	
min. Earth dist.	944 Oct 27 j 14:13	11° \mathbb{B} 15'44	4.03430 AU	max. Earth dist.	950 Oct 22 j 06:06	5° \mathbb{M} 21'57	6.38215 AU
opposition	944 Oct 29 j 00:55	11° \mathbb{B} 03'54	-1°-16'-19	conjunction	950 Oct 24 j 06:50	5° \mathbb{M} 48'56	0°55'52
direct	944 Dec 26 j 03:26	6° \mathbb{B} 06'38		minimum elong	950 Oct 24 j 06:52	5° \mathbb{M} 48'57	0°55'51
	945 Mar 14 j 19:15	15° \mathbb{B}		morning rise	950 Nov 05 j 21:29	8° \mathbb{M} 36'13	
evening set	945 May 01 j 08:59	25° \mathbb{B} 20'32			950 Dec 05 j 22:34	15° \mathbb{M}	
conjunction	945 May 15 j 02:47	28° \mathbb{B} 31'32	0°-35'-14	retrograde	951 Mar 07 j 19:30	25° \mathbb{M} 55'41	
minimum elong	945 May 15 j 02:49	28° \mathbb{B} 31'33	0°35'16	opposition	951 May 07 j 18:13	21° \mathbb{M} 03'44	1°03'06
max. Earth dist.	945 May 17 j 07:05	29° \mathbb{B} 01'52	6.09227 AU	min. Earth dist.	951 May 09 j 05:39	20° \mathbb{M} 52'27	4.33052 AU
	945 May 21 j 11:25	0° \mathbb{I}		direct	951 Jul 09 j 01:25	16° \mathbb{M} 04'34	
morning rise	945 May 28 j 22:00	1° \mathbb{I} 42'59			951 Oct 23 j 22:51	0° \mathbb{J}	
retrograde	945 Oct 03 j 23:47	20° \mathbb{I} 56'54		evening set	951 Nov 11 j 15:30	4° \mathbb{J} 08'13	
min. Earth dist.	945 Dec 01 j 08:00	16° \mathbb{I} 02'43	4.15914 AU	max. Earth dist.	951 Nov 22 j 09:18	6° \mathbb{J} 34'22	6.26751 AU
opposition	945 Dec 02 j 13:06	15° \mathbb{I} 52'50	0°-24'-7	conjunction	951 Nov 24 j 07:01	7° \mathbb{J} 00'23	0°26'41
direct	946 Jan 30 j 15:58	10° \mathbb{I} 52'36		minimum elong	951 Nov 24 j 07:02	7° \mathbb{J} 00'24	0°26'42
asc. node	946 May 16 j 00:20	24° \mathbb{I} 50'23		morning rise	951 Dec 06 j 21:38	9° \mathbb{J} 52'25	
evening set	946 Jun 06 j 08:38	29° \mathbb{I} 31'19		retrograde	952 Apr 09 j 17:30	28° \mathbb{J} 04'45	
	946 Jun 08 j 11:56	0° \mathbb{S}		opposition	952 Jun 09 j 15:49	23° \mathbb{J} 11'25	0°11'41
conjunction	946 Jun 20 j 02:13	2° \mathbb{S} 36'10	0°03'32	min. Earth dist.	952 Jun 10 j 20:59	23° \mathbb{J} 02'05	4.19816 AU
minimum elong	946 Jun 20 j 02:12	2° \mathbb{S} 36'09	0°03'32	direct	952 Aug 09 j 21:03	18° \mathbb{J} 14'51	
behind sun begin	946 Jun 19 j 17:55	2° \mathbb{S} 31'32		desc. node	952 Aug 28 j 05:03	18° \mathbb{J} 46'29	
behind sun end	946 Jun 20 j 10:29	2° \mathbb{S} 40'47			952 Nov 12 j 09:05	0° \mathbb{Z}	
max. Earth dist.	946 Jun 21 j 15:47	2° \mathbb{S} 57'16	6.22914 AU	evening set	952 Dec 13 j 00:26	6° \mathbb{Z} 52'21	
morning rise	946 Jul 03 j 19:04	5° \mathbb{S} 40'25		max. Earth dist.	952 Dec 24 j 10:35	9° \mathbb{Z} 32'44	6.12881 AU
retrograde	946 Nov 05 j 07:01	23° \mathbb{S} 47'38		conjunction	952 Dec 25 j 17:44	9° \mathbb{Z} 51'00	0°-12'00
min. Earth dist.	947 Jan 03 j 08:54	18° \mathbb{S} 52'21	4.29510 AU	minimum elong	952 Dec 25 j 17:43	9° \mathbb{Z} 51'00	0°12'01
opposition	947 Jan 04 j 01:24	18° \mathbb{S} 46'49	0°32'50	behind sun begin	952 Dec 25 j 12:09	9° \mathbb{Z} 47'45	
direct	947 Mar 05 j 10:57	13° \mathbb{S} 44'35		behind sun end	952 Dec 25 j 23:18	9° \mathbb{Z} 54'16	
	947 Jul 02 j 01:00	0° Ω		morning rise	953 Jan 07 j 12:04	12° \mathbb{Z} 50'26	
evening set	947 Jul 10 j 12:05	1° Ω 49'51			953 Apr 08 j 07:02	0° \approx	

retrograde	953 May 15 j 22:27	2° 30 09'38		opposition	959 Jan 08 j 11:35	23° 28 21'30	0°40'03
	953 Jun 22 j 19:37	30° R 3		min. Earth dist.	959 Jan 07 j 21:48	23° 28 26'06	4.30945 AU
opposition	953 Jul 15 j 13:42	27° 3 13'21	0°-47'-1	direct	959 Mar 10 j 02:39	18° 28 19'00	
min. Earth dist.	953 Jul 16 j 01:43	27° 3 09'26	4.06365 AU		959 Jun 14 j 23:05	0° 0	
direct	953 Sep 13 j 08:26	22° 3 18'58		evening set	959 Jul 15 j 03:21	6° 0 20'58	
	953 Nov 24 j 20:48	0° 0					
evening set	954 Jan 16 j 08:36	11° 0 32'39		conjunction	959 Jul 28 j 14:23	9° 0 17'16	0°43'40
				minimum elong	959 Jul 28 j 14:21	9° 0 17'14	0°43'41
conjunction	954 Jan 29 j 06:56	14° 0 38'33	0°-48'-9	max. Earth dist.	959 Jul 28 j 22:44	9° 0 21'50	6.36660 AU
minimum elong	954 Jan 29 j 06:53	14° 0 38'32	0°48'10	morning rise	959 Aug 10 j 22:54	12° 0 12'12	
max. Earth dist.	954 Jan 29 j 04:55	14° 0 37'20	6.01083 AU		959 Aug 23 j 23:28	15° 0	
	954 Jan 30 j 18:38	15° 0		retrograde	959 Dec 10 j 08:32	29° 0 22'58	
morning rise	954 Feb 11 j 07:24	17° 0 45'50		opposition	960 Feb 08 j 11:41	24° 0 26'24	1°21'33
	954 Apr 08 j 00:30	0° 0		min. Earth dist.	960 Feb 08 j 14:53	24° 0 25'21	4.41014 AU
retrograde	954 Jun 22 j 19:07	8° 0 03'23		direct	960 Apr 10 j 07:03	19° 0 23'19	
opposition	954 Aug 21 j 22:45	3° 0 03'17	-1°-31'-25		960 Jul 12 j 02:07	0° 0	
min. Earth dist.	954 Aug 21 j 13:35	3° 0 06'19	3.97474 AU	evening set	960 Aug 15 j 07:09	7° 0 03'23	
	954 Sep 15 j 20:02	30° 0					
direct	954 Oct 19 j 10:26	28° 0 09'45		conjunction	960 Aug 28 j 10:01	9° 0 53'31	1°04'49
	954 Nov 21 j 17:06	0° 0		minimum elong	960 Aug 28 j 10:00	9° 0 53'30	1°04'49
evening set	955 Feb 21 j 16:34	17° 0 47'18		max. Earth dist.	960 Aug 27 j 14:30	9° 0 42'57	6.43736 AU
				morning rise	960 Sep 10 j 10:04	12° 0 42'12	
conjunction	955 Mar 06 j 22:02	20° 0 58'48	-1°-7'-13	retrograde	961 Jan 08 j 14:01	29° 0 29'47	
minimum elong	955 Mar 06 j 22:01	20° 0 58'47	1°07'13	opposition	961 Mar 10 j 01:05	24° 0 36'15	1°39'38
max. Earth dist.	955 Mar 08 j 02:26	21° 0 15'57	5.95868 AU	min. Earth dist.	961 Mar 10 j 22:08	24° 0 29'28	4.44796 AU
morning rise	955 Mar 20 j 06:49	24° 0 12'02		direct	961 May 11 j 16:22	19° 0 33'44	
	955 Apr 14 j 01:31	0° 0			961 Aug 11 j 20:04	0° 0	
retrograde	955 Jul 30 j 17:48	14° 0 50'42		evening set	961 Sep 15 j 06:20	7° 0 07'06	
min. Earth dist.	955 Sep 27 j 08:23	9° 0 56'33	3.96690 AU	max. Earth dist.	961 Sep 26 j 11:06	9° 0 32'59	6.43858 AU
opposition	955 Sep 28 j 12:28	9° 0 47'02	-1°-40'-39				
direct	955 Nov 25 j 08:55	4° 0 52'12		conjunction	961 Sep 28 j 02:30	9° 0 54'27	1°08'01
evening set	956 Mar 30 j 03:42	24° 0 52'49		minimum elong	961 Sep 28 j 02:31	9° 0 54'27	1°08'01
				morning rise	961 Oct 10 j 19:56	12° 0 40'33	
conjunction	956 Apr 12 j 17:12	27° 0 42'18	-1°00'-4	retrograde	962 Feb 08 j 05:42	29° 0 33'11	
minimum elong	956 Apr 12 j 17:15	27° 0 42'20	1°00'04	opposition	962 Apr 10 j 01:16	24° 0 41'10	1°31'06
max. Earth dist.	956 Apr 14 j 19:33	28° 0 42'16	5.99505 AU	min. Earth dist.	962 Apr 11 j 09:11	24° 0 30'59	4.41341 AU
	956 Apr 22 j 08:53	0° 0		direct	962 Jun 11 j 18:46	19° 0 40'09	
morning rise	956 Apr 26 j 09:27	0° 0 57'04			962 Sep 10 j 17:22	0° 0	
	956 Jul 01 j 19:48	15° 0		evening set	962 Oct 15 j 20:48	7° 0 23'04	
retrograde	956 Sep 04 j 07:54	21° 0 06'33		max. Earth dist.	962 Oct 26 j 12:47	9° 0 44'40	6.37026 AU
min. Earth dist.	956 Nov 01 j 10:50	16° 0 12'54	4.04340 AU				
opposition	956 Nov 02 j 20:34	16° 0 01'23	-1°-10'-21	conjunction	962 Oct 28 j 13:02	10° 0 11'28	0°52'39
	956 Nov 10 j 09:43	15° 0 08'		minimum elong	962 Oct 28 j 13:04	10° 0 11'29	0°52'38
direct	956 Dec 31 j 01:37	11° 0 03'41		morning rise	962 Nov 10 j 03:20	12° 0 59'08	
	957 Feb 19 j 03:33	15° 0			962 Nov 19 j 07:44	15° 0	
	957 May 05 j 06:53	0° 0			963 Feb 24 j 05:37	0° 0	
evening set	957 May 06 j 09:30	0° 0 15'18		retrograde	963 Mar 12 j 09:03	0° 0 24'15	
					963 Mar 28 j 12:42	30° 0	
conjunction	957 May 20 j 03:50	3° 0 25'59	0°-30'-17	opposition	963 May 12 j 08:11	25° 0 32'15	0°56'56
minimum elong	957 May 20 j 03:52	3° 0 26'00	0°30'17	min. Earth dist.	963 May 13 j 19:57	25° 0 20'52	4.31480 AU
max. Earth dist.	957 May 22 j 08:23	3° 0 56'21	6.10445 AU	direct	963 Jul 13 j 13:10	20° 0 33'27	
morning rise	957 Jun 02 j 23:11	6° 0 36'56			963 Oct 06 j 10:05	0° 0	
retrograde	957 Oct 08 j 13:58	25° 0 43'26		evening set	963 Nov 16 j 00:54	8° 0 41'04	
min. Earth dist.	957 Dec 05 j 22:46	20° 0 49'29	4.17318 AU	max. Earth dist.	963 Nov 26 j 18:18	11° 0 47'40	6.24913 AU
opposition	957 Dec 07 j 03:33	20° 0 43'43	0°-16'-5				
direct	958 Feb 04 j 08:49	15° 0 43'09		conjunction	963 Nov 28 j 16:20	11° 0 43'33'59	0°21'39
asc. node	958 Mar 26 j 13:59	19° 0 42'48		minimum elong	963 Nov 28 j 16:22	11° 0 43'40'00	0°21'39
	958 May 22 j 20:49	0° 0		morning rise	963 Dec 11 j 07:26	14° 0 42'6'57	
evening set	958 Jun 11 j 05:33	4° 0 14'34			964 Mar 02 j 06:58	0° 0	
				retrograde	964 Apr 14 j 14:37	2° 0 48'06	
conjunction	958 Jun 24 j 22:32	7° 0 18'33	0°08'57		964 May 28 j 14:53	30° 0	
minimum elong	958 Jun 24 j 22:32	7° 0 18'33	0°08'56	opposition	964 Jun 14 j 12:19	27° 0 45'42'6	0°03'32
behind sun begin	958 Jun 24 j 15:27	7° 0 14'36		min. Earth dist.	964 Jun 15 j 15:32	27° 0 45'42	4.17828 AU
behind sun end	958 Jun 25 j 05:36	7° 0 22'30		desc. node	964 Jul 08 j 09:48	25° 0 42'02'12	
max. Earth dist.	958 Jun 26 j 08:08	7° 0 37'22	6.24400 AU	direct	964 Aug 14 j 12:54	22° 0 45'8'10	
morning rise	958 Jul 08 j 14:51	10° 0 21'52			964 Oct 23 j 21:18	0° 0	
retrograde	958 Nov 09 j 17:16	28° 0 21'53		evening set	964 Dec 17 j 15:42	11° 0 41'09	

max. Earth dist.	964 Dec 29 j 06:47	14°♄25'03	6.10929 AU	behind sun end	970 Jun 29 j 21:32	12°♄01'51	
				max. Earth dist.	970 Jul 01 j 01:53	12°♄17'40	6.26638 AU
conjunction	964 Dec 30 j 09:41	14°♄40'54	0°-17'-30	morning rise	970 Jul 13 j 09:05	15°♄01'44	
minimum elong	964 Dec 30 j 09:40	14°♄40'54	0°17'31		970 Oct 01 j 15:52	0°♂	
morning rise	965 Jan 12 j 04:35	17°♄41'27		retrograde	970 Nov 14 j 00:02	2°♂52'20	
	965 Mar 10 j 17:08	0°♄			970 Dec 27 j 08:30	30°♄	
retrograde	965 May 21 j 03:51	7°♄10'18		opposition	971 Jan 12 j 20:06	27°♄52'28	0°46'52
opposition	965 Jul 20 j 16:35	2°♄13'37	0°-54'-36	min. Earth dist.	971 Jan 12 j 08:01	27°♄56'30	4.32989 AU
min. Earth dist.	965 Jul 21 j 02:33	2°♄10'22	4.04630 AU	direct	971 Mar 14 j 15:30	22°♄49'49	
	965 Aug 07 j 09:44	30°♄			971 May 26 j 18:18	0°♂	
direct	965 Sep 18 j 06:20	27°♄19'30		evening set	971 Jul 19 j 15:53	10°♂46'35	
	965 Oct 29 j 06:37	0°♄					
	966 Jan 14 j 10:09	15°♄		conjunction	971 Aug 02 j 01:36	13°♂41'40	0°47'29
evening set	966 Jan 21 j 07:25	16°♄38'17		minimum elong	971 Aug 02 j 01:33	13°♂41'39	0°47'29
				max. Earth dist.	971 Aug 02 j 04:26	13°♂43'13	6.38336 AU
conjunction	966 Feb 03 j 06:30	19°♄45'11	0°-52'-8		971 Aug 08 j 01:16	15°♂	
minimum elong	966 Feb 03 j 06:28	19°♄45'09	0°52'09	morning rise	971 Aug 15 j 09:01	16°♂35'26	
max. Earth dist.	966 Feb 03 j 07:18	19°♄45'40	5.99712 AU		971 Oct 25 j 18:27	0°♄	
morning rise	966 Feb 16 j 08:15	22°♄53'37		retrograde	971 Dec 14 j 12:31	3°♄40'20	
	966 Mar 19 j 01:07	0°♄			972 Feb 02 j 21:42	30°♄	
retrograde	966 Jun 28 j 01:58	13°♄17'43		opposition	972 Feb 12 j 16:20	28°♂44'12	1°25'27
opposition	966 Aug 27 j 05:06	8°♄17'07	-1°-35'-10	min. Earth dist.	972 Feb 12 j 23:11	28°♂41'57	4.42218 AU
min. Earth dist.	966 Aug 26 j 16:00	8°♄21'28	3.96649 AU	direct	972 Apr 14 j 16:35	23°♂41'02	
direct	966 Oct 24 j 12:34	3°♄23'34			972 Jun 22 j 16:32	0°♄	
evening set	967 Feb 26 j 21:22	23°♄03'30		evening set	972 Aug 19 j 13:42	11°♄18'22	
conjunction	967 Mar 12 j 04:06	26°♄15'40	-1°-7'-50	conjunction	972 Sep 01 j 15:40	14°♄07'50	1°06'19
minimum elong	967 Mar 12 j 04:06	26°♄15'39	1°07'51	minimum elong	972 Sep 01 j 15:39	14°♄07'49	1°06'19
max. Earth dist.	967 Mar 13 j 13:14	26°♄35'40	5.95675 AU	max. Earth dist.	972 Aug 31 j 17:22	13°♄55'45	6.44358 AU
morning rise	967 Mar 25 j 13:57	29°♄29'29		morning rise	972 Sep 14 j 14:31	16°♄55'50	
	967 Mar 27 j 16:59	0°♄			972 Nov 23 j 12:01	0°♂	
retrograde	967 Aug 05 j 00:53	20°♄07'53		retrograde	973 Jan 12 j 15:44	3°♂41'58	
opposition	967 Oct 03 j 17:28	15°♄03'52	-1°-38'-36		973 Mar 04 j 21:17	30°♄	
min. Earth dist.	967 Oct 02 j 12:20	15°♄13'46	3.97173 AU	opposition	973 Mar 14 j 05:14	28°♄48'41	1°40'00
direct	967 Nov 30 j 14:34	10°♄08'46		min. Earth dist.	973 Mar 15 j 03:45	28°♄41'27	4.44813 AU
evening set	968 Apr 04 j 10:27	29°♄43'31		direct	973 May 15 j 20:52	23°♄46'16	
	968 Apr 05 j 14:21	0°♄			973 Jul 23 j 14:46	0°♂	
				evening set	973 Sep 19 j 10:15	11°♂19'52	
conjunction	968 Apr 18 j 00:57	2°♄56'57	0°-56'-59	max. Earth dist.	973 Sep 30 j 11:33	13°♂44'10	6.43252 AU
minimum elong	968 Apr 18 j 01:00	2°♄56'58	0°57'00				
max. Earth dist.	968 Apr 20 j 06:27	3°♄28'41	6.00640 AU	conjunction	973 Oct 02 j 05:37	14°♂07'08	1°06'57
morning rise	968 May 01 j 17:58	6°♄11'31		minimum elong	973 Oct 02 j 05:38	14°♂07'08	1°06'57
	968 Jun 10 j 00:04	15°♄		morning rise	973 Oct 14 j 22:28	16°♂53'14	
retrograde	968 Sep 09 j 06:36	26°♄13'28			973 Dec 23 j 08:45	0°♄	
min. Earth dist.	968 Nov 06 j 08:45	21°♄20'10	4.06017 AU	retrograde	974 Feb 12 j 13:25	3°♄49'05	
opposition	968 Nov 07 j 19:23	21°♄08'22	-1°-3'-39		974 Apr 06 j 01:56	30°♄	
direct	969 Jan 05 j 02:11	16°♄10'18		opposition	974 Apr 14 j 08:50	28°♂57'11	1°27'51
	969 Apr 18 j 00:01	0°♄		min. Earth dist.	974 Apr 15 j 19:10	28°♂46'15	4.40131 AU
evening set	969 May 11 j 12:47	5°♄16'39		direct	974 Jun 16 j 02:23	23°♂56'22	
					974 Aug 22 j 06:01	0°♄	
conjunction	969 May 25 j 07:06	8°♄26'26	0°-25'-1	evening set	974 Oct 20 j 01:51	11°♄42'37	
minimum elong	969 May 25 j 07:08	8°♄26'27	0°25'01	max. Earth dist.	974 Oct 30 j 15:35	14°♄03'34	6.35295 AU
max. Earth dist.	969 May 27 j 09:19	8°♄55'19	6.12516 AU				
morning rise	969 Jun 08 j 02:29	11°♄36'24		conjunction	974 Nov 01 j 17:50	14°♄31'35	0°49'12
	969 Sep 25 j 01:08	0°♄		minimum elong	974 Nov 01 j 17:52	14°♄31'36	0°49'12
retrograde	969 Oct 13 j 04:12	0°♄32'21			974 Nov 03 j 20:47	15°♄	
	969 Oct 31 j 04:31	30°♄		morning rise	974 Nov 14 j 08:10	17°♄19'57	
opposition	969 Dec 11 j 18:48	25°♄28'56	0°-7'-55		975 Jan 17 j 15:02	0°♄	
min. Earth dist.	969 Dec 10 j 15:51	25°♄38'05	4.19559 AU	retrograde	975 Mar 16 j 22:47	4°♄52'41	
asc. node	970 Feb 03 j 20:16	20°♄30'54		opposition	975 May 16 j 22:01	0°♄00'30	0°50'31
direct	970 Feb 09 j 05:53	20°♄28'00			975 May 16 j 23:35	30°♄	
	970 May 04 j 12:56	0°♄		min. Earth dist.	975 May 18 j 08:59	29°♄49'21	4.29329 AU
evening set	970 Jun 16 j 01:25	8°♄57'04		direct	975 Jul 17 j 22:36	25°♄01'59	
					975 Sep 15 j 05:57	0°♄	
conjunction	970 Jun 29 j 17:54	11°♄59'50	0°14'16	evening set	975 Nov 20 j 10:51	13°♄15'36	
minimum elong	970 Jun 29 j 17:53	11°♄59'49	0°14'15	max. Earth dist.	975 Dec 01 j 07:18	15°♄44'42	6.22531 AU
behind sun begin	970 Jun 29 j 14:14	11°♄57'48					

conjunction	975 Dec 03 j 02:38	16°♂09'36	0°16'30	retrograde	981 Oct 17 j 18:31	5°♂17'59	
minimum elong	975 Dec 03 j 02:39	16°♂09'36	0°16'30	asc. node	981 Dec 14 j 11:09	0°♂30'35	
morning rise	975 Dec 15 j 18:02	19°♂03'42		min. Earth dist.	981 Dec 15 j 07:56	0°♂23'34	4.21787 AU
	976 Feb 05 j 12:10	0°♂		opposition	981 Dec 16 j 09:03	0°♂15'05	0°00'17
retrograde	976 Apr 19 j 15:34	7°♂35'37			981 Dec 18 j 05:43	30°♂II	
desc. node	976 May 18 j 19:26	6°♂17'35		direct	982 Feb 14 j 00:52	25°♂II13'53	
opposition	976 Jun 19 j 10:44	2°♂41'40	0°-4'-41		982 Apr 12 j 05:45	0°♂	
min. Earth dist.	976 Jun 20 j 12:50	2°♂33'16	4.15382 AU	evening set	982 Jun 20 j 20:55	13°♂37'10	
	976 Jul 11 j 14:52	30°♂♂					
direct	976 Aug 19 j 06:34	27°♂45'46		conjunction	982 Jul 04 j 12:29	16°♂38'42	0°19'31
	976 Sep 26 j 07:58	0°♂		minimum elong	982 Jul 04 j 12:27	16°♂38'41	0°19'32
evening set	976 Dec 22 j 09:26	16°♂35'44		max. Earth dist.	982 Jul 05 j 15:26	16°♂53'40	6.28697 AU
max. Earth dist.	977 Jan 03 j 03:30	19°♂22'15	6.08640 AU	morning rise	982 Jul 18 j 02:51	19°♂39'21	
					982 Sep 06 j 18:06	0°♂	
conjunction	977 Jan 04 j 03:57	19°♂36'43	0°-22'-56	retrograde	982 Nov 18 j 07:18	7°♂21'40	
minimum elong	977 Jan 04 j 03:56	19°♂36'42	0°22'57	opposition	983 Jan 17 j 04:30	2°♂22'22	0°53'28
morning rise	977 Jan 16 j 23:53	22°♂38'40		min. Earth dist.	983 Jan 16 j 19:21	2°♂25'24	4.34741 AU
	977 Feb 18 j 09:23	0°♂			983 Feb 04 j 19:53	30°♂♂	
retrograde	977 May 26 j 10:24	12°♂18'19		direct	983 Mar 19 j 04:36	27°♂19'33	
opposition	977 Jul 25 j 22:30	7°♂21'04	-1°-1'-54		983 Apr 30 j 23:39	0°♂	
min. Earth dist.	977 Jul 26 j 04:02	7°♂19'15	4.02731 AU		983 Jul 23 j 05:22	15°♂	
direct	977 Sep 23 j 05:59	2°♂27'11		evening set	983 Jul 24 j 04:26	15°♂12'27	
	977 Dec 27 j 20:47	15°♂					
evening set	978 Jan 26 j 09:34	21°♂51'24		conjunction	983 Aug 06 j 13:13	18°♂06'35	0°51'06
				minimum elong	983 Aug 06 j 13:11	18°♂06'34	0°51'06
conjunction	978 Feb 08 j 09:44	24°♂59'21	0°-55'-45	max. Earth dist.	983 Aug 06 j 13:14	18°♂06'35	6.39655 AU
minimum elong	978 Feb 08 j 09:42	24°♂59'20	0°55'46	morning rise	983 Aug 19 j 19:15	20°♂59'18	
max. Earth dist.	978 Feb 08 j 16:52	25°♂03'39	5.98388 AU		983 Oct 03 j 04:17	0°♂	
morning rise	978 Feb 21 j 12:29	28°♂08'50		retrograde	983 Dec 18 j 16:41	7°♂59'49	
	978 Mar 01 j 07:10	0°♂		opposition	984 Feb 16 j 22:11	3°♂04'14	1°29'00
retrograde	978 Jul 03 j 13:40	18°♂38'43		min. Earth dist.	984 Feb 17 j 07:03	3°♂01'20	4.43043 AU
opposition	978 Sep 01 j 14:09	13°♂37'30	-1°-38'-7		984 Mar 13 j 07:55	30°♂♂	
min. Earth dist.	978 Aug 31 j 22:29	13°♂42'44	3.96062 AU	direct	984 Apr 19 j 00:35	28°♂01'11	
direct	978 Oct 29 j 19:50	8°♂43'51			984 May 26 j 02:40	0°♂	
evening set	979 Mar 04 j 05:05	28°♂24'51		evening set	984 Aug 23 j 21:47	15°♂37'03	
	979 Mar 10 j 19:20	0°♂					
				conjunction	984 Sep 05 j 22:33	18°♂26'00	1°07'31
conjunction	979 Mar 17 j 12:59	1°♂37'27	-1°-7'-53	minimum elong	984 Sep 05 j 22:32	18°♂25'59	1°07'32
minimum elong	979 Mar 17 j 12:59	1°♂37'27	1°07'54	max. Earth dist.	984 Sep 04 j 19:20	18°♂11'15	6.44613 AU
max. Earth dist.	979 Mar 19 j 03:03	2°♂00'24	5.95861 AU	morning rise	984 Sep 18 j 20:33	21°♂13'32	
morning rise	979 Mar 31 j 00:01	4°♂51'42			984 Nov 01 j 04:01	0°♂	
retrograde	979 Aug 10 j 07:11	25°♂27'15		retrograde	985 Jan 16 j 22:52	7°♂59'36	
opposition	979 Oct 08 j 23:12	20°♂22'53	-1°-35'-38	opposition	985 Mar 18 j 12:01	3°♂06'39	1°39'53
min. Earth dist.	979 Oct 07 j 15:39	20°♂33'36	3.98118 AU	min. Earth dist.	985 Mar 19 j 13:34	2°♂58'27	4.44505 AU
direct	979 Dec 05 j 19:27	15°♂27'25			985 Apr 13 j 16:33	30°♂♂	
	980 Mar 19 j 05:02	0°♂		direct	985 May 20 j 05:28	28°♂04'23	
evening set	980 Apr 09 j 18:03	4°♂58'29			985 Jun 25 j 21:49	0°♂	
				evening set	985 Sep 23 j 16:36	15°♂39'15	
conjunction	980 Apr 23 j 09:13	8°♂11'31	0°-53'-26	max. Earth dist.	985 Oct 04 j 15:45	18°♂02'42	6.42393 AU
minimum elong	980 Apr 23 j 09:16	8°♂11'32	0°53'27				
max. Earth dist.	980 Apr 25 j 14:37	8°♂43'03	6.02204 AU	conjunction	985 Oct 06 j 11:28	18°♂26'37	1°05'31
morning rise	980 May 07 j 02:58	11°♂25'37		minimum elong	985 Oct 06 j 11:29	18°♂26'38	1°05'31
	980 May 22 j 14:02	15°♂		morning rise	985 Oct 19 j 03:41	21°♂12'51	
	980 Aug 16 j 17:41	0°♂			985 Dec 01 j 00:04	0°♂	
retrograde	980 Sep 14 j 03:58	1°♂18'22		retrograde	986 Feb 16 j 22:39	8°♂12'47	
	980 Oct 12 j 08:56	30°♂♂		opposition	986 Apr 18 j 19:25	3°♂20'58	1°24'01
min. Earth dist.	980 Nov 11 j 07:27	26°♂24'58	4.07990 AU	min. Earth dist.	986 Apr 20 j 05:43	3°♂10'02	4.38787 AU
opposition	980 Nov 12 j 17:41	26°♂13'18	0°-56'-27		986 May 17 j 16:27	30°♂♂	
direct	981 Jan 10 j 04:27	21°♂14'46		direct	986 Jun 20 j 10:04	28°♂20'27	
	981 Mar 29 j 19:15	0°♂			986 Jul 24 j 04:43	0°♂	
evening set	981 May 16 j 15:11	10°♂15'03			986 Oct 19 j 02:20	15°♂	
				evening set	986 Oct 24 j 09:51	16°♂10'25	
conjunction	981 May 30 j 09:42	13°♂23'53	0°-19'-34	max. Earth dist.	986 Nov 03 j 23:53	18°♂32'08	6.33571 AU
minimum elong	981 May 30 j 09:43	13°♂23'54	0°19'34				
max. Earth dist.	981 Jun 01 j 11:19	13°♂52'17	6.14730 AU	conjunction	986 Nov 06 j 01:37	19°♂00'00	0°45'21
morning rise	981 Jun 13 j 04:36	16°♂32'41		minimum elong	986 Nov 06 j 01:39	19°♂00'01	0°45'21
	981 Aug 18 j 18:24	0°♂		morning rise	986 Nov 18 j 15:55	21°♂49'04	

	1986 Dec 27 j 06:07	0°♏			1992 Jul 15 j 16:44	0°♊	
retrograde	1987 Mar 21 j 17:51	9°♏29'34		retrograde	1992 Sep 18 j 22:47	6°♊12'54	
opposition	1987 May 21 j 15:29	4°♏37'19	0°43'33	min. Earth dist.	1992 Nov 16 j 02:39	1°♊19'13	4.09980 AU
min. Earth dist.	1987 May 23 j 02:43	4°♏26'05	4.27323 AU	opposition	1992 Nov 17 j 11:35	1°♊08'00	0°-49'-8
	1987 Jul 07 j 12:28	30°♏			1992 Nov 25 j 20:57	30°♏	
direct	1987 Jul 22 j 13:12	29°♏39'12		direct	1993 Jan 15 j 02:23	26°♏09'03	
	1987 Aug 06 j 12:44	0°♏			1993 Mar 06 j 00:23	0°♊	
evening set	1987 Nov 24 j 23:29	17°♏58'09		evening set	1993 May 21 j 13:37	15°♊03'32	
max. Earth dist.	1987 Dec 05 j 21:24	20°♏28'50	6.20428 AU				
				conjunction	1993 Jun 04 j 07:56	18°♊11'24	0°-14'-10
conjunction	1987 Dec 07 j 15:30	20°♏53'08	0°11'06	minimum elong	1993 Jun 04 j 07:57	18°♊11'24	0°14'12
minimum elong	1987 Dec 07 j 15:30	20°♏53'08	0°11'06	behind sun begin	1993 Jun 04 j 04:13	18°♊09'17	
behind sun begin	1987 Dec 07 j 09:29	20°♏49'40		behind sun end	1993 Jun 04 j 11:41	18°♊13'31	
behind sun end	1987 Dec 07 j 21:32	20°♏56'36		max. Earth dist.	1993 Jun 06 j 06:03	18°♊37'39	6.16787 AU
morning rise	1987 Dec 20 j 07:27	23°♏48'20		morning rise	1993 Jun 18 j 02:41	21°♊19'09	
	1988 Jan 17 j 02:05	0°♏			1993 Jul 28 j 13:37	0°♏	
desc. node	1988 Mar 28 j 05:04	11°♏20'14		retrograde	1993 Oct 22 j 03:38	9°♏54'48	
retrograde	1988 Apr 24 j 16:08	12°♏30'08		asc. node	1993 Oct 25 j 09:39	9°♏53'45	
opposition	1988 Jun 24 j 11:31	7°♏35'47	0°-13'-8	opposition	1993 Dec 20 j 19:47	4°♏52'19	0°08'11
min. Earth dist.	1988 Jun 25 j 10:02	7°♏28'31	4.13369 AU	min. Earth dist.	1993 Dec 19 j 20:28	5°♏00'11	4.23726 AU
direct	1988 Aug 24 j 01:04	2°♏40'17			1994 Feb 08 j 23:26	30°♏	
evening set	1988 Dec 27 j 05:00	21°♏35'40		direct	1994 Feb 18 j 15:33	29°♊50'47	
max. Earth dist.	1989 Jan 08 j 05:04	24°♏26'19	6.06919 AU		1994 Feb 28 j 09:13	0°♏	
				evening set	1994 Jun 25 j 12:46	18°♏09'22	
conjunction	1989 Jan 09 j 00:11	24°♏37'40	0°-28'-19				
minimum elong	1989 Jan 09 j 00:09	24°♏37'39	0°28'20	conjunction	1994 Jul 09 j 03:41	21°♏09'53	0°24'30
morning rise	1989 Jan 21 j 20:49	27°♏40'42		minimum elong	1994 Jul 09 j 03:39	21°♏09'52	0°24'31
	1989 Jan 31 j 18:36	0°♏		max. Earth dist.	1994 Jul 10 j 03:06	21°♏22'50	6.30385 AU
	1989 Apr 21 j 11:22	15°♏		morning rise	1994 Jul 22 j 16:58	24°♏09'23	
retrograde	1989 May 31 j 18:52	17°♏28'48			1994 Aug 19 j 02:48	0°♏	
	1989 Jul 11 j 07:59	15°♏		retrograde	1994 Nov 22 j 13:27	11°♏44'59	
opposition	1989 Jul 31 j 04:50	12°♏31'00	-1°-8'-47	opposition	1995 Jan 21 j 10:54	6°♏46'16	0°59'36
min. Earth dist.	1989 Jul 31 j 07:48	12°♏30'01	4.01489 AU	min. Earth dist.	1995 Jan 21 j 04:36	6°♏48'21	4.36061 AU
direct	1989 Sep 28 j 09:21	7°♏37'16		direct	1995 Mar 23 j 14:55	1°♏43'23	
	1989 Dec 07 j 17:11	15°♏			1995 Jul 07 j 01:12	15°♏	
evening set	1990 Jan 31 j 11:35	27°♏04'27		evening set	1995 Jul 28 j 15:05	19°♏33'40	
	1990 Feb 12 j 14:58	0°♏					
conjunction	1990 Feb 13 j 12:42	0°♏13'07	0°-58'-57	conjunction	1995 Aug 10 j 22:43	22°♏27'02	0°54'21
minimum elong	1990 Feb 13 j 12:40	0°♏13'06	0°58'57	minimum elong	1995 Aug 10 j 22:41	22°♏27'00	0°54'20
max. Earth dist.	1990 Feb 14 j 00:50	0°♏20'27	5.97735 AU	max. Earth dist.	1995 Aug 10 j 17:29	22°♏24'11	6.40503 AU
morning rise	1990 Feb 26 j 16:34	3°♏23'23		morning rise	1995 Aug 24 j 03:46	25°♏18'59	
retrograde	1990 Jul 08 j 21:19	23°♏55'53			1995 Sep 15 j 08:01	0°♏	
opposition	1990 Sep 06 j 20:54	18°♏54'07	-1°-40'-13	retrograde	1995 Dec 22 j 21:29	12°♏16'42	
min. Earth dist.	1990 Sep 06 j 01:44	19°♏00'32	3.96113 AU	opposition	1996 Feb 21 j 03:19	7°♏21'32	1°32'01
direct	1990 Nov 03 j 23:23	14°♏00'20		min. Earth dist.	1996 Feb 21 j 14:59	7°♏17'44	4.43408 AU
	1991 Feb 21 j 21:47	0°♏		direct	1996 Apr 23 j 08:12	2°♏18'29	
evening set	1991 Mar 09 j 10:17	3°♏40'09		evening set	1996 Aug 28 j 05:04	19°♏54'13	
				max. Earth dist.	1996 Sep 09 j 00:23	22°♏27'18	6.44476 AU
conjunction	1991 Mar 22 j 19:05	6°♏52'51	-1°-7'-23	conjunction	1996 Sep 10 j 05:06	22°♏42'52	1°08'20
minimum elong	1991 Mar 22 j 19:06	6°♏52'52	1°07'24	minimum elong	1996 Sep 10 j 05:05	22°♏42'52	1°08'19
max. Earth dist.	1991 Mar 24 j 11:28	7°♏17'09	5.96574 AU	morning rise	1996 Sep 23 j 02:02	25°♏30'05	
morning rise	1991 Apr 05 j 07:13	10°♏07'12			1996 Oct 14 j 09:34	0°♏	
	1991 Jul 26 j 16:59	0°♏		retrograde	1997 Jan 21 j 04:31	12°♏17'13	
retrograde	1991 Aug 15 j 08:07	0°♏37'57		opposition	1997 Mar 22 j 19:08	7°♏24'33	1°39'13
	1991 Sep 03 j 21:20	30°♏		min. Earth dist.	1997 Mar 23 j 21:40	7°♏16'03	4.43897 AU
min. Earth dist.	1991 Oct 12 j 16:17	25°♏44'22	3.99405 AU	direct	1997 May 24 j 12:03	2°♏22'33	
opposition	1991 Oct 14 j 00:56	25°♏33'15	-1°-31'-59	evening set	1997 Sep 27 j 23:12	19°♏59'16	
direct	1991 Dec 10 j 22:55	20°♏37'20		max. Earth dist.	1997 Oct 08 j 19:36	22°♏21'39	6.41358 AU
	1992 Feb 29 j 10:42	0°♏					
evening set	1992 Apr 14 j 21:35	10°♏03'45		conjunction	1997 Oct 10 j 17:22	22°♏46'47	1°03'41
				minimum elong	1997 Oct 10 j 17:23	22°♏46'48	1°03'41
conjunction	1992 Apr 28 j 13:37	13°♏16'19	0°-49'-35	morning rise	1997 Oct 23 j 09:16	25°♏33'18	
minimum elong	1992 Apr 28 j 13:40	13°♏16'21	0°49'36		1997 Nov 13 j 03:48	0°♏	
max. Earth dist.	1992 Apr 30 j 20:36	13°♏48'38	6.03947 AU	retrograde	1998 Feb 21 j 11:21	12°♏37'50	
	1992 May 05 j 22:08	15°♏		opposition	1998 Apr 23 j 07:22	7°♏46'04	1°19'39
morning rise	1992 May 12 j 07:40	16°♏29'46		min. Earth dist.	1998 Apr 24 j 18:55	7°♏34'45	4.37382 AU

direct	998 Jun 24 j 21:08	2°♄45'52		evening set	1004 Apr 20 j 00:35	15°♄06'41	
	998 Oct 02 j 14:23	15°♄					
evening set	998 Oct 28 j 18:18	20°♄39'19		conjunction	1004 May 03 j 17:10	18°♄18'53	0°-45'-25
max. Earth dist.	998 Nov 08 j 09:07	23°♄02'01	6.31916 AU	minimum elong	1004 May 03 j 17:12	18°♄18'55	0°45'25
				max. Earth dist.	1004 May 05 j 23:03	18°♄50'26	6.05378 AU
conjunction	998 Nov 10 j 10:03	23°♄29'32	0°41'12	morning rise	1004 May 17 j 11:52	21°♄31'54	
minimum elong	998 Nov 10 j 10:05	23°♄29'33	0°41'12		1004 Jun 24 j 16:02	0°♂	
morning rise	998 Nov 23 j 00:20	26°♄19'16		retrograde	1004 Sep 23 j 15:27	11°♂06'50	
	998 Dec 09 j 16:53	0°♂		min. Earth dist.	1004 Nov 20 j 20:16	6°♂13'17	4.11621 AU
retrograde	999 Mar 26 j 10:46	14°♂07'08		opposition	1004 Nov 22 j 04:58	6°♂02'09	0°-41'-31
opposition	999 May 26 j 09:24	9°♂14'39	0°36'14	direct	1005 Jan 19 j 22:12	1°♂02'47	
min. Earth dist.	999 May 27 j 18:25	9°♂04'07	4.25524 AU	evening set	1005 May 26 j 12:22	19°♂53'00	
direct	999 Jul 27 j 02:18	4°♂16'57					
evening set	999 Nov 29 j 12:25	22°♂40'20		conjunction	1005 Jun 09 j 06:37	23°♂00'05	0°-8'-41
max. Earth dist.	999 Dec 10 j 13:34	25°♂13'29	6.18632 AU	minimum elong	1005 Jun 09 j 06:37	23°♂00'05	0°08'42
				behind sun begin	1005 Jun 08 j 23:26	22°♂56'01	
conjunction	999 Dec 12 j 04:39	25°♂36'09	0°05'37	behind sun end	1005 Jun 09 j 13:49	23°♂04'08	
minimum elong	999 Dec 12 j 04:38	25°♂36'08	0°05'38	max. Earth dist.	1005 Jun 11 j 01:56	23°♂24'39	6.18512 AU
behind sun begin	999 Dec 11 j 20:58	25°♂31'43		morning rise	1005 Jun 23 j 00:52	26°♂06'51	
behind sun end	999 Dec 12 j 12:18	25°♂40'34			1005 Jul 10 j 14:04	0°♄	
morning rise	999 Dec 24 j 21:01	28°♂32'18		asc. node	1005 Sep 04 j 14:26	10°♄29'56	
	999 Dec 31 j 05:55	0°♄		retrograde	1005 Oct 26 j 15:56	14°♄34'15	
desc. node	1000 Feb 06 j 00:00	7°♄55'31		min. Earth dist.	1005 Dec 24 j 10:56	9°♄39'09	4.25367 AU
retrograde	1000 Apr 29 j 18:13	17°♄22'46		opposition	1005 Dec 25 j 07:27	9°♄32'15	0°16'05
opposition	1000 Jun 29 j 11:55	12°♄28'01	0°-21'-29	direct	1006 Feb 23 j 07:56	4°♄30'29	
min. Earth dist.	1000 Jun 30 j 08:50	12°♄21'15	4.11688 AU	evening set	1006 Jun 30 j 06:11	22°♄45'27	
direct	1000 Aug 28 j 22:06	7°♄32'50					
evening set	1000 Dec 31 j 23:39	26°♄32'25		conjunction	1006 Jul 13 j 20:17	25°♄45'03	0°29'25
				minimum elong	1006 Jul 13 j 20:15	25°♄45'02	0°29'25
conjunction	1001 Jan 13 j 19:29	29°♄35'19	0°-33'-27	max. Earth dist.	1006 Jul 14 j 16:00	25°♄55'55	6.31812 AU
minimum elong	1001 Jan 13 j 19:27	29°♄35'18	0°33'28	morning rise	1006 Jul 27 j 08:36	28°♄43'33	
max. Earth dist.	1001 Jan 13 j 04:06	29°♄26'09	6.05495 AU		1006 Aug 02 j 04:51	0°♂	
	1001 Jan 15 j 12:55	0°♂			1006 Oct 30 j 00:31	15°♂	
morning rise	1001 Jan 26 j 16:59	2°♂39'21		retrograde	1006 Nov 26 j 19:51	16°♂13'16	
	1001 Mar 24 j 14:23	15°♂			1006 Dec 24 j 12:07	15°♂♂	
retrograde	1001 Jun 06 j 00:09	22°♂34'40		opposition	1007 Jan 25 j 18:51	11°♂15'03	1°05'30
opposition	1001 Aug 05 j 09:16	17°♂36'22	-1°-15'-5	min. Earth dist.	1007 Jan 25 j 14:22	11°♂16'32	4.37205 AU
min. Earth dist.	1001 Aug 05 j 08:39	17°♂36'34	4.00476 AU	direct	1007 Mar 28 j 01:41	6°♂12'06	
	1001 Aug 26 j 06:57	15°♂♂			1007 Jun 18 j 19:35	15°♂	
direct	1001 Oct 03 j 08:51	12°♂42'48		evening set	1007 Aug 02 j 03:29	24°♂00'19	
	1001 Nov 09 j 21:25	15°♂					
	1002 Jan 27 j 05:54	0°♂		conjunction	1007 Aug 15 j 10:06	26°♂52'56	0°57'22
evening set	1002 Feb 05 j 12:12	2°♂12'29		minimum elong	1007 Aug 15 j 10:04	26°♂52'55	0°57'22
				max. Earth dist.	1007 Aug 15 j 02:07	26°♂48'36	6.41296 AU
conjunction	1002 Feb 18 j 14:09	5°♂21'47	-1°-1'-39	morning rise	1007 Aug 28 j 13:54	29°♂44'05	
minimum elong	1002 Feb 18 j 14:07	5°♂21'46	1°01'40		1007 Aug 29 j 19:26	0°♂	
max. Earth dist.	1002 Feb 19 j 05:42	5°♂31'10	5.97205 AU	retrograde	1007 Dec 27 j 04:00	16°♂39'09	
morning rise	1002 Mar 03 j 19:07	8°♂32'45		opposition	1008 Feb 25 j 10:39	11°♂44'27	1°34'38
retrograde	1002 Jul 14 j 02:12	29°♂07'36		min. Earth dist.	1008 Feb 26 j 00:25	11°♂39'59	4.43836 AU
min. Earth dist.	1002 Sep 11 j 03:46	24°♂12'31	3.96135 AU	direct	1008 Apr 27 j 18:12	6°♂41'36	
opposition	1002 Sep 12 j 01:11	24°♂05'19	-1°-41'-32	evening set	1008 Sep 01 j 14:01	24°♂16'36	
direct	1002 Nov 09 j 02:05	19°♂11'21		max. Earth dist.	1008 Sep 13 j 04:56	26°♂47'28	6.44514 AU
	1003 Feb 03 j 21:06	0°♂					
evening set	1003 Mar 14 j 14:02	8°♂50'40		conjunction	1008 Sep 14 j 12:58	27°♂04'50	1°08'49
				minimum elong	1008 Sep 14 j 12:57	27°♂04'50	1°08'48
conjunction	1003 Mar 28 j 00:06	12°♂03'39	-1°-6'-24	morning rise	1008 Sep 27 j 09:07	29°♂51'43	
minimum elong	1003 Mar 28 j 00:07	12°♂03'40	1°06'24		1008 Sep 28 j 00:29	0°♄	
max. Earth dist.	1003 Mar 29 j 20:31	12°♂30'19	5.97149 AU	retrograde	1009 Jan 25 j 12:38	16°♄39'18	
morning rise	1003 Apr 10 j 13:05	15°♂18'08		opposition	1009 Mar 27 j 04:02	11°♄46'49	1°38'03
	1003 Jun 19 j 00:48	0°♂		min. Earth dist.	1009 Mar 28 j 07:57	11°♄37'52	4.43582 AU
retrograde	1003 Aug 20 j 10:04	5°♂44'41		direct	1009 May 28 j 21:44	6°♄45'01	
min. Earth dist.	1003 Oct 17 j 16:07	0°♂51'00	4.00466 AU	evening set	1009 Oct 02 j 06:32	24°♄22'19	
opposition	1003 Oct 19 j 00:52	0°♂39'51	-1°-27'-44	max. Earth dist.	1009 Oct 13 j 03:14	26°♄45'06	6.40728 AU
	1003 Oct 23 j 22:16	30°♂♂					
direct	1003 Dec 16 j 00:11	25°♂43'34		conjunction	1009 Oct 15 j 00:14	27°♄09'52	1°01'33
	1004 Feb 06 j 00:14	0°♂		minimum elong	1009 Oct 15 j 00:16	27°♄09'52	1°01'34
	1004 Apr 19 j 13:07	15°♂		morning rise	1009 Oct 27 j 15:29	29°♄56'24	

	1009 Oct 27 j 22:04	0°♄		min. Earth dist.	1015 Oct 22 j 11:19	5°♄49'07	4.01213 AU
	1010 Jan 19 j 19:39	15°♄		opposition	1015 Oct 23 j 21:12	5°♄37'34	-1°-23'-3
retrograde	1010 Feb 25 j 21:25	17°♄04'05		direct	1015 Dec 20 j 20:48	0°♄40'53	
	1010 Apr 04 j 07:46	15°♄			1016 Apr 02 j 23:12	15°♄	
opposition	1010 Apr 27 j 19:23	12°♄12'16	1°14'53	evening set	1016 Apr 25 j 00:58	20°♄02'09	
min. Earth dist.	1010 Apr 29 j 06:15	12°♄01'11	4.36478 AU				
direct	1010 Jun 29 j 07:18	7°♄12'26		conjunction	1016 May 08 j 18:17	23°♄14'12	0°-41'-3
	1010 Sep 14 j 02:51	15°♄		minimum elong	1016 May 08 j 18:19	23°♄14'13	0°41'04
evening set	1010 Nov 02 j 02:16	25°♄07'31		max. Earth dist.	1016 May 10 j 23:36	23°♄45'21	6.06469 AU
max. Earth dist.	1010 Nov 12 j 16:58	27°♄30'36	6.30805 AU	morning rise	1016 May 22 j 13:19	26°♄26'52	
					1016 Jun 07 j 02:37	0°♄	
conjunction	1010 Nov 14 j 17:39	27°♄58'03	0°36'55	retrograde	1016 Sep 28 j 08:13	15°♄55'04	
minimum elong	1010 Nov 14 j 17:41	27°♄58'04	0°36'54	opposition	1016 Nov 26 j 20:26	10°♄50'37	0°-33'-52
	1010 Nov 23 j 18:04	0°♄		min. Earth dist.	1016 Nov 25 j 13:38	11°♄01'07	4.12922 AU
morning rise	1010 Nov 27 j 08:02	0°♄48'16		direct	1017 Jan 24 j 17:35	5°♄50'54	
retrograde	1011 Mar 31 j 03:40	18°♄41'43		evening set	1017 May 31 j 09:45	24°♄38'05	
opposition	1011 May 31 j 02:08	13°♄48'58	0°28'52				
min. Earth dist.	1011 Jun 01 j 10:39	13°♄38'34	4.24249 AU	conjunction	1017 Jun 14 j 03:55	27°♄44'30	0°-3'-16
direct	1011 Jul 31 j 17:05	8°♄51'32		minimum elong	1017 Jun 14 j 03:54	27°♄44'29	0°03'17
evening set	1011 Dec 03 j 22:58	27°♄17'29		behind sun begin	1017 Jun 13 j 19:35	27°♄39'48	
max. Earth dist.	1011 Dec 15 j 02:54	29°♄52'40	6.17309 AU	behind sun end	1017 Jun 14 j 12:13	27°♄49'10	
	1011 Dec 15 j 15:31	0°♄		max. Earth dist.	1017 Jun 15 j 21:45	28°♄08'09	6.19937 AU
					1017 Jun 24 j 03:56	0°♄	
conjunction	1011 Dec 16 j 15:30	0°♄13'56	0°00'13	morning rise	1017 Jun 27 j 21:44	0°♄50'27	
minimum elong	1011 Dec 16 j 15:30	0°♄13'56	0°00'13	asc. node	1017 Jul 16 j 14:35	4°♄57'45	
behind sun begin	1011 Dec 16 j 07:34	0°♄09'21		retrograde	1017 Oct 31 j 01:19	19°♄10'33	
behind sun end	1011 Dec 16 j 23:26	0°♄18'31		opposition	1017 Dec 29 j 18:11	14°♄09'00	0°23'44
desc. node	1011 Dec 18 j 15:51	0°♄42'02		min. Earth dist.	1017 Dec 28 j 22:25	14°♄15'39	4.26794 AU
morning rise	1011 Dec 29 j 08:15	3°♄10'49		direct	1018 Feb 27 j 21:18	9°♄07'02	
retrograde	1012 May 04 j 14:33	22°♄08'13		evening set	1018 Jul 04 j 22:36	27°♄18'51	
opposition	1012 Jul 04 j 08:58	17°♄13'02	0°-29'-24		1018 Jul 17 j 03:58	0°♄	
min. Earth dist.	1012 Jul 05 j 03:12	17°♄07'08	4.10423 AU				
direct	1012 Sep 02 j 14:35	12°♄18'06		conjunction	1018 Jul 18 j 11:47	0°♄17'31	0°34'05
	1012 Dec 30 j 22:25	0°♄		minimum elong	1018 Jul 18 j 11:44	0°♄17'30	0°34'04
evening set	1013 Jan 05 j 15:13	1°♄20'40		max. Earth dist.	1018 Jul 19 j 03:42	0°♄26'17	6.33140 AU
				morning rise	1018 Jul 31 j 23:06	3°♄15'02	
conjunction	1013 Jan 18 j 11:31	4°♄24'15	0°-38'-9		1018 Sep 29 j 09:56	15°♄	
minimum elong	1013 Jan 18 j 11:29	4°♄24'14	0°38'09	retrograde	1018 Dec 01 j 03:32	20°♄39'11	
max. Earth dist.	1013 Jan 17 j 22:40	4°♄16'36	6.04389 AU	opposition	1019 Jan 30 j 02:39	15°♄41'27	1°10'55
morning rise	1013 Jan 31 j 09:51	7°♄29'06		min. Earth dist.	1019 Jan 30 j 01:02	15°♄41'59	4.38329 AU
	1013 Mar 05 j 06:24	15°♄			1019 Feb 04 j 08:42	15°♄	
retrograde	1013 Jun 11 j 01:09	27°♄30'30		direct	1019 Apr 01 j 14:24	10°♄38'27	
opposition	1013 Aug 10 j 09:09	22°♄31'38	-1°-20'-35		1019 May 27 j 13:08	15°♄	
min. Earth dist.	1013 Aug 10 j 06:21	22°♄32'33	3.99637 AU	evening set	1019 Aug 06 j 14:45	28°♄24'09	
direct	1013 Oct 08 j 05:47	17°♄38'01			1019 Aug 14 j 00:09	0°♄	
	1014 Jan 10 j 12:43	0°♄					
evening set	1014 Feb 10 j 08:47	7°♄09'55		conjunction	1019 Aug 19 j 20:18	1°♄16'00	1°00'01
				minimum elong	1019 Aug 19 j 20:16	1°♄15'59	1°00'01
conjunction	1014 Feb 23 j 11:53	10°♄19'55	-1°-3'-48	max. Earth dist.	1019 Aug 19 j 09:22	1°♄10'05	6.42104 AU
minimum elong	1014 Feb 23 j 11:51	10°♄19'54	1°03'49	morning rise	1019 Sep 01 j 22:55	4°♄06'22	
max. Earth dist.	1014 Feb 24 j 07:54	10°♄32'00	5.96718 AU	retrograde	1019 Dec 31 j 08:13	20°♄58'38	
morning rise	1014 Mar 08 j 17:48	13°♄31'33		opposition	1020 Feb 29 j 17:08	16°♄04'14	1°36'40
	1014 May 27 j 19:05	0°♄		min. Earth dist.	1020 Mar 01 j 08:19	15°♄59'19	4.44278 AU
retrograde	1014 Jul 19 j 04:21	4°♄08'28		direct	1020 May 02 j 02:21	11°♄01'27	
	1014 Sep 10 j 07:13	30°♄		evening set	1020 Sep 05 j 21:27	28°♄35'30	
min. Earth dist.	1014 Sep 16 j 02:39	29°♄13'21	3.96076 AU		1020 Sep 12 j 09:57	0°♄	
opposition	1014 Sep 17 j 01:02	29°♄05'49	-1°-42'-3	max. Earth dist.	1020 Sep 17 j 10:12	1°♄05'15	6.44527 AU
direct	1014 Nov 14 j 00:25	24°♄11'38					
	1015 Jan 14 j 01:13	0°♄		conjunction	1020 Sep 18 j 19:32	1°♄23'21	1°08'54
evening set	1015 Mar 19 j 14:11	13°♄51'06		minimum elong	1020 Sep 18 j 19:31	1°♄23'21	1°08'53
				morning rise	1020 Oct 01 j 14:41	4°♄09'52	
conjunction	1015 Apr 02 j 01:11	17°♄04'23	-1°-4'-58	retrograde	1021 Jan 29 j 19:18	20°♄58'06	
minimum elong	1015 Apr 02 j 01:13	17°♄04'24	1°04'59	opposition	1021 Mar 31 j 11:58	16°♄05'49	1°36'20
max. Earth dist.	1015 Apr 03 j 22:18	17°♄31'25	5.97506 AU	min. Earth dist.	1021 Apr 01 j 17:28	15°♄56'24	4.43136 AU
morning rise	1015 Apr 15 j 15:24	20°♄19'13		direct	1021 Jun 02 j 06:39	11°♄04'17	
	1015 May 28 j 14:52	0°♄		evening set	1021 Oct 06 j 12:33	28°♄42'34	
retrograde	1015 Aug 25 j 06:38	10°♄42'31			1021 Oct 12 j 09:46	0°♄	

max. Earth dist.	1021 Oct 17 j 05:58	1°ℳ04'00	6.39823 AU	conjunction	1027 Apr 07 j 08:42	22°Υ20'09	-1°-2'-57
				minimum elong	1027 Apr 07 j 08:44	22°Υ20'10	1°02'58
conjunction	1021 Oct 19 j 05:36	1°ℳ30'15	0°59'04	max. Earth dist.	1027 Apr 09 j 09:01	22°Υ49'02	5.98199 AU
minimum elong	1021 Oct 19 j 05:38	1°ℳ30'16	0°59'04	morning rise	1027 Apr 20 j 23:46	25°Υ35'02	
morning rise	1021 Oct 31 j 20:39	4°ℳ17'03			1027 May 09 j 22:36	0°⋈	
	1021 Dec 24 j 02:27	15°ℳ			1027 Aug 07 j 01:31	15°⋈	
retrograde	1022 Mar 02 j 09:17	21°ℳ29'13		retrograde	1027 Aug 30 j 08:57	15°⋈53'03	
opposition	1022 May 02 j 07:26	16°ℳ37'22	1°09'40		1027 Sep 22 j 10:18	15°⋈	
min. Earth dist.	1022 May 03 j 18:52	16°ℳ26'05	4.35142 AU	opposition	1027 Oct 28 j 22:02	10°⋈47'58	-1°-17'-30
	1022 May 15 j 06:56	15°ℳ		min. Earth dist.	1027 Oct 27 j 12:16	10°⋈59'29	4.02500 AU
direct	1022 Jul 03 j 17:47	11°ℳ37'47		direct	1027 Dec 26 j 00:16	5°⋈50'53	
	1022 Aug 21 j 08:29	15°ℳ			1028 Mar 14 j 20:30	15°⋈	
evening set	1022 Nov 06 j 10:00	29°ℳ36'09		evening set	1028 Apr 30 j 05:29	25°⋈07'55	
	1022 Nov 08 j 04:30	0°♊					
max. Earth dist.	1022 Nov 17 j 02:19	2°♊00'39	6.29147 AU	conjunction	1028 May 13 j 23:18	28°⋈19'22	0°-36'-15
				minimum elong	1028 May 13 j 23:20	28°⋈19'23	0°36'16
conjunction	1022 Nov 19 j 01:30	2°♊27'21	0°32'21	max. Earth dist.	1028 May 16 j 05:44	28°⋈51'00	6.08254 AU
minimum elong	1022 Nov 19 j 01:32	2°♊27'22	0°32'21		1028 May 21 j 04:36	0°♈	
morning rise	1022 Dec 01 j 15:51	5°♊18'17		morning rise	1028 May 27 j 18:32	1°♈31'18	
retrograde	1023 Apr 04 j 21:07	23°♊19'32		retrograde	1028 Oct 03 j 00:23	20°♈49'29	
opposition	1023 Jun 04 j 20:03	18°♊26'34	0°21'09	min. Earth dist.	1028 Nov 30 j 06:59	15°♈55'49	4.15024 AU
min. Earth dist.	1023 Jun 06 j 03:15	18°♊16'37	4.22367 AU	opposition	1028 Dec 01 j 13:54	15°♈45'18	0°-25'-49
direct	1023 Aug 05 j 06:47	13°♊29'33		direct	1029 Jan 29 j 14:03	10°♈45'13	
desc. node	1023 Oct 29 j 00:28	23°♊09'16		asc. node	1029 May 26 j 22:08	27°♈20'36	
	1023 Nov 29 j 18:08	0°♉		evening set	1029 Jun 05 j 08:12	29°♈26'14	
evening set	1023 Dec 08 j 11:56	2°♉00'30			1029 Jun 07 j 20:32	0°♉	
max. Earth dist.	1023 Dec 19 j 17:28	4°♉37'20	6.15358 AU				
				conjunction	1029 Jun 19 j 01:47	2°♉31'25	0°02'21
conjunction	1023 Dec 21 j 04:41	4°♉57'53	0°-5'-22	minimum elong	1029 Jun 19 j 01:45	2°♉31'24	0°02'21
minimum elong	1023 Dec 21 j 04:40	4°♉57'53	0°05'23	behind sun begin	1029 Jun 18 j 17:24	2°♉26'44	
behind sun begin	1023 Dec 20 j 20:56	4°♉53'23		behind sun end	1029 Jun 19 j 10:06	2°♉36'05	
behind sun end	1023 Dec 21 j 12:23	5°♉02'22		max. Earth dist.	1029 Jun 20 j 15:50	2°♉52'50	6.22178 AU
morning rise	1024 Jan 02 j 22:08	7°♉55'52		morning rise	1029 Jul 02 j 18:57	5°♉36'04	
retrograde	1024 May 09 j 16:56	27°♉02'54		retrograde	1029 Nov 04 j 10:57	23°♉46'04	
opposition	1024 Jul 09 j 09:37	22°♉07'16	0°-37'-27	min. Earth dist.	1030 Jan 02 j 11:46	18°♉50'37	4.28970 AU
min. Earth dist.	1024 Jul 10 j 01:28	22°♉02'08	4.08550 AU	opposition	1030 Jan 03 j 04:35	18°♉44'58	0°31'11
direct	1024 Sep 07 j 10:48	17°♉12'34		direct	1030 Mar 04 j 14:14	13°♉42'43	
	1024 Dec 13 j 23:21	0°♊			1030 Jul 01 j 04:28	0°♊	
evening set	1025 Jan 10 j 10:59	6°♊20'27		evening set	1030 Jul 09 j 13:17	1°♊48'45	
conjunction	1025 Jan 23 j 08:14	9°♊25'08	0°-42'-48	conjunction	1030 Jul 23 j 01:34	4°♊46'11	0°38'28
minimum elong	1025 Jan 23 j 08:12	9°♊25'07	0°42'48	minimum elong	1030 Jul 23 j 01:31	4°♊46'10	0°38'28
max. Earth dist.	1025 Jan 23 j 00:25	9°♊20'27	6.02776 AU	max. Earth dist.	1030 Jul 23 j 14:56	4°♊53'31	6.35074 AU
morning rise	1025 Feb 05 j 07:25	12°♊31'06		morning rise	1030 Aug 05 j 11:32	7°♊42'22	
	1025 Feb 15 j 19:49	15°♊			1030 Sep 09 j 10:26	15°♊	
	1025 May 05 j 13:11	0°♋		retrograde	1030 Dec 05 j 05:51	24°♊59'11	
retrograde	1025 Jun 16 j 09:03	2°♋40'26		opposition	1031 Feb 03 j 07:52	20°♊01'55	1°15'47
	1025 Jul 28 j 09:11	30°♋		min. Earth dist.	1031 Feb 03 j 07:56	20°♊01'53	4.39894 AU
opposition	1025 Aug 15 j 14:32	27°♋41'05	-1°-25'-47		1031 Apr 02 j 09:15	15°♋	
min. Earth dist.	1025 Aug 15 j 09:15	27°♋42'50	3.98472 AU	direct	1031 Apr 05 j 22:55	14°♋58'49	
direct	1025 Oct 13 j 06:36	22°♋47'34			1031 Apr 09 j 12:53	15°♋	
	1025 Dec 21 j 08:23	0°♌			1031 Jul 29 j 08:29	0°♌	
evening set	1026 Feb 15 j 11:38	12°♌22'50		evening set	1031 Aug 10 j 22:51	2°♌40'45	
				max. Earth dist.	1031 Aug 23 j 11:44	5°♌23'20	6.43165 AU
conjunction	1026 Feb 28 j 15:40	15°♌33'35	-1°-5'-35	conjunction	1031 Aug 24 j 03:08	5°♌31'40	1°02'15
minimum elong	1026 Feb 28 j 15:39	15°♌33'34	1°05'35	minimum elong	1031 Aug 24 j 03:06	5°♌31'39	1°02'15
max. Earth dist.	1026 Mar 01 j 14:29	15°♌47'23	5.96093 AU	morning rise	1031 Sep 06 j 04:39	8°♌21'09	
morning rise	1026 Mar 13 j 22:57	18°♌46'03		retrograde	1032 Jan 04 j 11:17	25°♌10'17	
	1026 May 03 j 01:36	0°♍		opposition	1032 Mar 04 j 20:54	20°♌16'15	1°38'07
retrograde	1026 Jul 24 j 10:11	9°♍25'02		min. Earth dist.	1032 Mar 05 j 15:31	20°♌10'14	4.44771 AU
min. Earth dist.	1026 Sep 21 j 04:45	4°♍30'35	3.96102 AU	direct	1032 May 06 j 09:56	15°♌13'30	
opposition	1026 Sep 22 j 06:22	4°♍21'56	-1°-41'-48		1032 Aug 28 j 00:43	0°♎	
	1026 Nov 01 j 11:27	30°♌		evening set	1032 Sep 10 j 01:24	2°♎46'30	
direct	1026 Nov 19 j 03:48	29°♌27'32		max. Earth dist.	1032 Sep 21 j 09:35	5°♎13'55	6.44384 AU
	1026 Dec 06 j 21:45	0°♍					
evening set	1027 Mar 24 j 20:31	19°♍06'39		conjunction	1032 Sep 22 j 22:39	5°♎34'04	1°08'36

minimum elong	1032 Sep 22 j 22:40	5°♂34'04	1°08'37	retrograde	1038 Jul 29 j 19:53	14°♂46'46	
morning rise	1032 Oct 05 j 17:04	8°♂20'21		min. Earth dist.	1038 Sep 26 j 10:39	9°♂52'25	3.96483 AU
retrograde	1033 Feb 02 j 23:16	25°♂10'06		opposition	1038 Sep 27 j 13:52	9°♂43'13	-1°-40'-37
opposition	1033 Apr 04 j 17:27	20°♂17'54	1°34'10	direct	1038 Nov 24 j 11:37	4°♂48'31	
min. Earth dist.	1033 Apr 06 j 00:16	20°♂08'04	4.42374 AU	evening set	1039 Mar 30 j 04:42	24°♂25'38	
direct	1033 Jun 06 j 11:26	15°♂16'30					
	1033 Sep 27 j 01:08	0°♂		conjunction	1039 Apr 12 j 17:55	27°♂39'05	-1°00'-22
evening set	1033 Oct 10 j 16:15	2°♂57'00		minimum elong	1039 Apr 12 j 17:57	27°♂39'07	1°00'23
max. Earth dist.	1033 Oct 21 j 08:58	5°♂18'27	6.38493 AU	max. Earth dist.	1039 Apr 14 j 21:40	28°♂09'55	5.99306 AU
					1039 Apr 22 j 14:53	0°♂	
conjunction	1033 Oct 23 j 09:01	5°♂45'02	0°56'19	morning rise	1039 Apr 26 j 09:54	0°♂53'51	
minimum elong	1033 Oct 23 j 09:03	5°♂45'03	0°56'19		1039 Jul 02 j 02:28	15°♂	
morning rise	1033 Nov 04 j 23:39	8°♂32'15		retrograde	1039 Sep 04 j 09:37	21°♂04'26	
	1033 Dec 05 j 09:14	15°♂		opposition	1039 Nov 02 j 23:10	15°♂59'17	-1°-11'-17
retrograde	1034 Mar 06 j 19:48	25°♂50'27		min. Earth dist.	1039 Nov 01 j 12:12	16°♂11'13	4.04185 AU
opposition	1034 May 06 j 18:07	20°♂58'34	1°04'10		1039 Nov 10 j 06:20	15°♂	
min. Earth dist.	1034 May 08 j 06:27	20°♂47'01	4.33306 AU	direct	1039 Dec 31 j 02:45	11°♂01'48	
direct	1034 Jul 08 j 02:10	15°♂59'18			1040 Feb 19 j 10:41	15°♂	
	1034 Oct 23 j 10:22	0°♂			1040 May 04 j 11:08	0°♂	
evening set	1034 Nov 10 j 17:17	4°♂02'46		evening set	1040 May 05 j 10:19	0°♂13'20	
max. Earth dist.	1034 Nov 21 j 08:36	6°♂27'30	6.26943 AU				
				conjunction	1040 May 19 j 04:18	3°♂23'56	0°-31'-8
conjunction	1034 Nov 23 j 08:44	6°♂54'52	0°27'39	minimum elong	1040 May 19 j 04:21	3°♂23'58	0°31'09
minimum elong	1034 Nov 23 j 08:46	6°♂54'53	0°27'40	max. Earth dist.	1040 May 21 j 08:27	3°♂54'06	6.10332 AU
morning rise	1034 Dec 05 j 23:35	9°♂46'53		morning rise	1040 Jun 01 j 23:41	6°♂34'56	
retrograde	1035 Apr 09 j 17:00	27°♂58'07		retrograde	1040 Oct 07 j 16:32	25°♂42'29	
opposition	1035 Jun 09 j 14:46	23°♂04'51	0°13'21	min. Earth dist.	1040 Dec 05 j 01:57	20°♂48'25	4.17250 AU
min. Earth dist.	1035 Jun 10 j 20:27	22°♂55'20	4.19932 AU	opposition	1040 Dec 06 j 06:51	20°♂38'36	0°-17'-35
direct	1035 Aug 09 j 20:40	18°♂08'07		direct	1041 Feb 03 j 12:34	15°♂38'08	
desc. node	1035 Sep 08 j 19:28	19°♂31'13		asc. node	1041 Apr 05 j 10:03	21°♂03'04	
	1035 Nov 12 j 22:17	0°♂			1041 May 22 j 00:19	0°♂	
evening set	1035 Dec 13 j 01:57	6°♂46'06		evening set	1041 Jun 10 j 06:06	4°♂13'02	
conjunction	1035 Dec 25 j 19:23	9°♂44'47	0°-10'-50	conjunction	1041 Jun 23 j 23:18	7°♂17'04	0°07'51
minimum elong	1035 Dec 25 j 19:23	9°♂44'46	0°10'51	minimum elong	1041 Jun 23 j 23:18	7°♂17'04	0°07'51
behind sun begin	1035 Dec 25 j 13:13	9°♂41'10		behind sun begin	1041 Jun 23 j 15:51	7°♂12'55	
behind sun end	1035 Dec 26 j 01:33	9°♂48'23		behind sun end	1041 Jun 24 j 06:44	7°♂21'13	
max. Earth dist.	1035 Dec 24 j 12:24	9°♂26'36	6.12920 AU	max. Earth dist.	1041 Jun 25 j 11:32	7°♂37'21	6.24384 AU
morning rise	1036 Jan 07 j 13:28	12°♂44'07		morning rise	1041 Jul 07 j 15:32	10°♂20'24	
	1036 Apr 08 j 08:14	0°♂		retrograde	1041 Nov 08 j 19:42	28°♂21'00	
retrograde	1036 May 14 j 22:40	2°♂02'37		opposition	1042 Jan 07 j 14:45	23°♂20'30	0°38'29
	1036 Jun 20 j 16:40	30°♂		min. Earth dist.	1042 Jan 06 j 23:42	23°♂25'32	4.30970 AU
opposition	1036 Jul 14 j 12:40	27°♂06'35	0°-45'-19	direct	1042 Mar 09 j 04:31	18°♂18'06	
min. Earth dist.	1036 Jul 15 j 02:05	27°♂02'13	4.06331 AU		1042 Jun 14 j 02:51	0°♂	
direct	1036 Sep 12 j 08:12	22°♂12'12		evening set	1042 Jul 14 j 04:03	6°♂19'21	
	1036 Nov 24 j 11:18	0°♂					
evening set	1037 Jan 15 j 10:03	11°♂26'42		conjunction	1042 Jul 27 j 15:06	9°♂15'39	0°42'41
				minimum elong	1042 Jul 27 j 15:04	9°♂15'38	0°42'42
conjunction	1037 Jan 28 j 08:03	14°♂32'33	0°-47'-10	max. Earth dist.	1042 Jul 27 j 22:50	9°♂19'53	6.36711 AU
minimum elong	1037 Jan 28 j 08:01	14°♂32'32	0°47'11	morning rise	1042 Aug 10 j 00:03	12°♂10'43	
max. Earth dist.	1037 Jan 28 j 03:42	14°♂29'57	6.00975 AU		1042 Aug 23 j 03:25	15°♂	
	1037 Jan 30 j 05:44	15°♂		retrograde	1042 Dec 09 j 12:03	29°♂21'46	
morning rise	1037 Feb 10 j 08:31	17°♂39'51		opposition	1043 Feb 07 j 14:27	24°♂25'01	1°20'22
	1037 Apr 07 j 13:34	0°♂		min. Earth dist.	1043 Feb 07 j 18:08	24°♂23'49	4.41079 AU
retrograde	1037 Jun 21 j 17:38	7°♂57'29		direct	1043 Apr 10 j 10:21	19°♂21'54	
opposition	1037 Aug 20 j 22:34	2°♂57'33	-1°-30'-22		1043 Jul 12 j 06:46	0°♂	
min. Earth dist.	1037 Aug 20 j 12:47	3°♂00'48	3.97310 AU	evening set	1043 Aug 15 j 07:58	7°♂01'24	
	1037 Sep 13 j 22:12	30°♂					
direct	1037 Oct 18 j 09:56	28°♂04'05		conjunction	1043 Aug 28 j 11:20	9°♂51'39	1°04'14
	1037 Nov 21 j 14:20	0°♂		minimum elong	1043 Aug 28 j 11:18	9°♂51'39	1°04'13
evening set	1038 Feb 20 j 17:45	17°♂42'33		max. Earth dist.	1043 Aug 27 j 17:09	9°♂41'49	6.43806 AU
				morning rise	1043 Sep 10 j 11:36	12°♂40'26	
conjunction	1038 Mar 05 j 23:05	20°♂54'03	-1°-6'-49	retrograde	1044 Jan 08 j 14:53	29°♂27'58	
minimum elong	1038 Mar 05 j 23:04	20°♂54'03	1°06'49	opposition	1044 Mar 09 j 02:49	24°♂34'17	1°39'09
max. Earth dist.	1038 Mar 07 j 03:56	21°♂11'30	5.95680 AU	min. Earth dist.	1044 Mar 09 j 22:49	24°♂27'50	4.44861 AU
morning rise	1038 Mar 19 j 07:27	24°♂07'14		direct	1044 May 10 j 16:28	19°♂31'41	
	1038 Apr 13 j 10:08	0°♂			1044 Aug 11 j 01:43	0°♂	


evening set	1044 Sep 14 j 07:57	7°♂04'56		minimum elong	1050 Mar 11 j 04:57	26°♂10'18	1°07'32
max. Earth dist.	1044 Sep 25 j 12:38	9°♂30'44	6.43911 AU	max. Earth dist.	1050 Mar 12 j 14:09	26°♂30'20	5.95924 AU
				morning rise	1050 Mar 24 j 14:28	29°♂23'51	
conjunction	1044 Sep 27 j 04:20	9°♂52'22	1°07'58		1050 Mar 27 j 02:57	0°♀	
minimum elong	1044 Sep 27 j 04:21	9°♂52'22	1°07'58	retrograde	1050 Aug 04 j 00:06	20°♀00'51	
morning rise	1044 Oct 09 j 22:05	12°♂38'33		opposition	1050 Oct 02 j 17:50	14°♀56'53	-1°-38'-39
retrograde	1045 Feb 07 j 08:19	29°♂30'56		min. Earth dist.	1050 Oct 01 j 12:05	15°♀06'58	3.97405 AU
opposition	1045 Apr 09 j 02:30	24°♂38'55	1°31'27	direct	1050 Nov 29 j 14:24	10°♀01'51	
min. Earth dist.	1045 Apr 10 j 11:36	24°♂28'22	4.41365 AU	evening set	1051 Apr 04 j 09:44	29°♀35'18	
direct	1045 Jun 10 j 20:56	19°♂37'46			1051 Apr 06 j 03:35	0°♂	
	1045 Sep 09 j 23:42	0°♂					
evening set	1045 Oct 14 j 23:04	7°♂21'01		conjunction	1051 Apr 17 j 23:41	2°♂48'25	0°-57'-24
max. Earth dist.	1045 Oct 25 j 13:38	9°♂41'49	6.37016 AU	minimum elong	1051 Apr 17 j 23:43	2°♂48'27	0°57'25
				max. Earth dist.	1051 Apr 20 j 03:25	3°♂19'07	6.00785 AU
conjunction	1045 Oct 27 j 15:30	10°♂09'30	0°53'10	morning rise	1051 May 01 j 16:26	6°♂02'46	
minimum elong	1045 Oct 27 j 15:32	10°♂09'31	0°53'10		1051 Jun 10 j 15:28	15°♂	
morning rise	1045 Nov 09 j 06:05	12°♂57'16		retrograde	1051 Sep 09 j 05:33	26°♂04'44	
	1045 Nov 18 j 13:53	15°♂		min. Earth dist.	1051 Nov 06 j 09:23	21°♂11'17	4.06036 AU
	1046 Feb 24 j 01:38	0°♂		opposition	1051 Nov 07 j 19:46	20°♂59'33	-1°-4'-45
retrograde	1046 Mar 11 j 10:10	0°♂22'06		direct	1052 Jan 05 j 03:03	16°♂01'34	
	1046 Mar 26 j 19:55	30°♂			1052 Apr 17 j 15:13	0°♂	
opposition	1046 May 11 j 08:59	25°♂30'05	0°58'04	evening set	1052 May 10 j 10:44	5°♂07'23	
min. Earth dist.	1046 May 12 j 20:28	25°♂18'47	4.31453 AU				
direct	1046 Jul 12 j 13:15	20°♂31'08		conjunction	1052 May 24 j 05:05	8°♂17'10	0°-26'00
	1046 Oct 05 j 16:19	0°♂		minimum elong	1052 May 24 j 05:07	8°♂17'11	0°26'00
evening set	1046 Nov 15 j 03:55	8°♂39'31		max. Earth dist.	1052 May 26 j 08:48	8°♂46'55	6.12401 AU
max. Earth dist.	1046 Nov 25 j 22:16	11°♂06'36	6.24884 AU	morning rise	1052 Jun 07 j 00:12	11°♂27'07	
					1052 Sep 26 j 10:32	0°♂	
conjunction	1046 Nov 27 j 19:36	11°♂32'31	0°22'36	retrograde	1052 Oct 12 j 05:37	0°♂24'29	
minimum elong	1046 Nov 27 j 19:37	11°♂32'32	0°22'36		1052 Oct 27 j 21:04	30°♂	
morning rise	1046 Dec 10 j 10:35	14°♂25'29		opposition	1052 Dec 10 j 19:48	25°♂21'03	0°-9'-33
	1047 Mar 02 j 14:58	0°♂		min. Earth dist.	1052 Dec 09 j 16:38	25°♂30'15	4.19321 AU
retrograde	1047 Apr 14 j 17:05	2°♂46'08		direct	1053 Feb 08 j 05:49	20°♂20'16	
	1047 May 28 j 09:20	30°♂		asc. node	1053 Feb 14 j 06:16	20°♂23'50	
opposition	1047 Jun 14 j 13:05	27°♂52'38	0°05'07		1053 May 04 j 03:29	0°♂	
min. Earth dist.	1047 Jun 15 j 17:35	27°♂43'30	4.17819 AU	evening set	1053 Jun 15 j 00:13	8°♂49'49	
desc. node	1047 Jul 19 j 05:50	24°♂00'45					
direct	1047 Aug 14 j 14:43	22°♂56'19		conjunction	1053 Jun 28 j 16:39	11°♂52'45	0°13'07
	1047 Oct 24 j 03:29	0°♂		minimum elong	1053 Jun 28 j 16:38	11°♂52'44	0°13'07
evening set	1047 Dec 17 j 19:12	11°♂39'57		behind sun begin	1053 Jun 28 j 11:53	11°♂50'06	
max. Earth dist.	1047 Dec 29 j 08:19	14°♂22'46	6.10955 AU	behind sun end	1053 Jun 28 j 21:24	11°♂55'23	
				max. Earth dist.	1053 Jun 29 j 23:45	12°♂10'06	6.26280 AU
conjunction	1047 Dec 30 j 13:01	14°♂39'40	0°-16'-25	morning rise	1053 Jul 12 j 08:14	14°♂54'57	
minimum elong	1047 Dec 30 j 12:59	14°♂39'39	0°16'25		1053 Oct 01 j 09:35	0°♂	
morning rise	1048 Jan 12 j 07:58	17°♂40'11		retrograde	1053 Nov 13 j 02:14	2°♂47'39	
	1048 Mar 09 j 23:27	0°♂			1053 Dec 25 j 18:31	30°♂	
retrograde	1048 May 20 j 03:40	7°♂08'09		opposition	1054 Jan 11 j 22:06	27°♂47'40	0°45'20
opposition	1048 Jul 19 j 17:29	2°♂11'33	0°-53'-3	min. Earth dist.	1054 Jan 11 j 10:02	27°♂51'42	4.32561 AU
min. Earth dist.	1048 Jul 20 j 02:39	2°♂08'34	4.04722 AU	direct	1054 Mar 13 j 16:29	22°♂45'04	
	1048 Aug 06 j 04:06	30°♂			1054 May 26 j 04:15	0°♂	
direct	1048 Sep 17 j 07:11	27°♂17'25		evening set	1054 Jul 18 j 16:09	10°♂43'02	
	1048 Oct 28 j 15:28	0°♂					
	1049 Jan 13 j 16:37	15°♂		conjunction	1054 Aug 01 j 02:22	13°♂38'28	0°46'34
evening set	1049 Jan 20 j 10:12	16°♂36'05		minimum elong	1054 Aug 01 j 02:19	13°♂38'27	0°46'34
				max. Earth dist.	1054 Aug 01 j 07:12	13°♂41'07	6.37888 AU
conjunction	1049 Feb 02 j 09:10	19°♂42'49	0°-51'-15		1054 Aug 07 j 07:43	15°♂	
minimum elong	1049 Feb 02 j 09:08	19°♂42'48	0°51'16	morning rise	1054 Aug 14 j 09:59	16°♂32'33	
max. Earth dist.	1049 Feb 02 j 11:08	19°♂44'00	5.99885 AU		1054 Oct 25 j 01:12	0°♂	
morning rise	1049 Feb 15 j 10:29	22°♂51'00		retrograde	1054 Dec 13 j 15:38	3°♂39'25	
	1049 Mar 18 j 08:19	0°♂			1055 Feb 01 j 21:55	30°♂	
retrograde	1049 Jun 27 j 03:26	13°♂13'45		opposition	1055 Feb 11 j 19:20	28°♂43'14	1°24'25
opposition	1049 Aug 26 j 06:05	8°♂13'12	-1°-34'-11	min. Earth dist.	1055 Feb 12 j 01:02	28°♂41'22	4.41793 AU
min. Earth dist.	1049 Aug 25 j 17:55	8°♂17'16	3.96878 AU	direct	1055 Apr 14 j 17:23	23°♂40'10	
direct	1049 Oct 23 j 15:42	3°♂19'40			1055 Jun 22 j 19:19	0°♂	
evening set	1050 Feb 25 j 22:37	22°♂58'27		evening set	1055 Aug 19 j 16:08	11°♂18'47	
conjunction	1050 Mar 11 j 04:57	26°♂10'18	-1°-7'-31	conjunction	1055 Sep 01 j 18:20	14°♂08'33	1°05'49

minimum elong	1055 Sep 01 j 18:18	14° $\mathring{\text{M}}$ 08'32	1°05'50	max. Earth dist.	1061 Feb 07 j 14:51	24° \approx 53'11	5.99045 AU
max. Earth dist.	1055 Aug 31 j 19:15	13° $\mathring{\text{M}}$ 56'03	6.43996 AU	morning rise	1061 Feb 20 j 11:26	27° \approx 58'42	
morning rise	1055 Sep 14 j 17:46	16° $\mathring{\text{M}}$ 56'53			1061 Feb 28 j 23:26	0° $\mathring{\text{H}}$	
	1055 Nov 23 j 10:12	0° $\mathring{\text{A}}$		retrograde	1061 Jul 02 j 09:12	18° $\mathring{\text{H}}$ 25'24	
retrograde	1056 Jan 12 j 21:35	3° $\mathring{\text{A}}$ 44'20		opposition	1061 Aug 31 j 10:52	13° $\mathring{\text{H}}$ 24'22	-1°-37'-14
	1056 Mar 04 j 08:29	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$		min. Earth dist.	1061 Aug 30 j 19:22	13° $\mathring{\text{H}}$ 29'32	3.96594 AU
opposition	1056 Mar 13 j 09:00	28° $\mathring{\text{M}}$ 51'01	1°39'38	direct	1061 Oct 28 j 16:52	8° $\mathring{\text{H}}$ 30'45	
min. Earth dist.	1056 Mar 14 j 07:58	28° $\mathring{\text{M}}$ 43'37	4.44545 AU	evening set	1062 Mar 03 j 01:51	28° $\mathring{\text{H}}$ 09'52	
direct	1056 May 15 j 00:36	23° $\mathring{\text{M}}$ 48'34			1062 Mar 10 j 17:05	0° $\mathring{\text{Y}}$	
	1056 Jul 22 j 11:19	0° $\mathring{\text{A}}$					
evening set	1056 Sep 18 j 14:18	11° $\mathring{\text{A}}$ 23'12		conjunction	1062 Mar 16 j 09:12	1° $\mathring{\text{Y}}$ 22'04	-1°-7'-42
max. Earth dist.	1056 Sep 29 j 17:07	13° $\mathring{\text{A}}$ 48'17	6.43110 AU	minimum elong	1062 Mar 16 j 09:12	1° $\mathring{\text{Y}}$ 22'04	1°07'43
				max. Earth dist.	1062 Mar 17 j 20:48	1° $\mathring{\text{Y}}$ 43'32	5.96201 AU
conjunction	1056 Oct 01 j 10:09	14° $\mathring{\text{A}}$ 10'41	1°06'57	morning rise	1062 Mar 29 j 19:50	4° $\mathring{\text{Y}}$ 35'57	
minimum elong	1056 Oct 01 j 10:10	14° $\mathring{\text{A}}$ 10'41	1°06'57	retrograde	1062 Aug 09 j 01:37	25° $\mathring{\text{Y}}$ 10'33	
morning rise	1056 Oct 14 j 03:12	16° $\mathring{\text{A}}$ 56'58		opposition	1062 Oct 07 j 19:23	20° $\mathring{\text{Y}}$ 06'14	-1°-35'-59
	1056 Dec 22 j 02:31	0° $\mathring{\text{M}}$		min. Earth dist.	1062 Oct 06 j 12:39	20° $\mathring{\text{Y}}$ 16'41	3.98207 AU
retrograde	1057 Feb 11 j 16:43	3° $\mathring{\text{M}}$ 53'01		direct	1062 Dec 04 j 16:45	15° $\mathring{\text{Y}}$ 10'49	
	1057 Apr 05 j 18:27	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$			1063 Mar 20 j 06:28	0° $\mathring{\text{B}}$	
opposition	1057 Apr 13 j 12:25	29° $\mathring{\text{A}}$ 01'07	1°28'12	evening set	1063 Apr 09 j 13:00	4° $\mathring{\text{B}}$ 41'28	
min. Earth dist.	1057 Apr 14 j 21:20	28° $\mathring{\text{A}}$ 50'37	4.40149 AU				
direct	1057 Jun 15 j 04:26	24° $\mathring{\text{A}}$ 00'17		conjunction	1063 Apr 23 j 04:00	7° $\mathring{\text{B}}$ 54'26	0°-54'-4
	1057 Aug 21 j 00:08	0° $\mathring{\text{M}}$		minimum elong	1063 Apr 23 j 04:03	7° $\mathring{\text{B}}$ 54'28	0°54'05
evening set	1057 Oct 19 j 06:50	11° $\mathring{\text{M}}$ 46'50		max. Earth dist.	1063 Apr 25 j 09:54	8° $\mathring{\text{B}}$ 26'17	6.02047 AU
max. Earth dist.	1057 Oct 29 j 21:46	14° $\mathring{\text{M}}$ 08'23	6.35487 AU	morning rise	1063 May 06 j 21:18	11° $\mathring{\text{B}}$ 08'28	
					1063 May 23 j 14:28	15° $\mathring{\text{B}}$	
conjunction	1057 Oct 31 j 22:57	14° $\mathring{\text{M}}$ 35'48	0°49'40		1063 Aug 19 j 15:50	0° $\mathring{\text{H}}$	
minimum elong	1057 Oct 31 j 22:59	14° $\mathring{\text{M}}$ 35'49	0°49'41	retrograde	1063 Sep 14 j 02:14	1° $\mathring{\text{H}}$ 02'51	
	1057 Nov 02 j 18:20	15° $\mathring{\text{M}}$			1063 Oct 09 j 05:40	30° $\mathring{\text{R}}$ $\mathring{\text{B}}$	
morning rise	1057 Nov 13 j 13:23	17° $\mathring{\text{M}}$ 24'09		min. Earth dist.	1063 Nov 11 j 05:32	26° $\mathring{\text{B}}$ 09'16	4.07602 AU
	1058 Jan 16 j 10:42	0° $\mathring{\text{A}}$		opposition	1063 Nov 12 j 15:09	25° $\mathring{\text{B}}$ 57'48	0°-57'-53
retrograde	1058 Mar 16 j 03:11	4° $\mathring{\text{A}}$ 55'42		direct	1064 Jan 10 j 01:28	20° $\mathring{\text{B}}$ 59'25	
opposition	1058 May 16 j 00:57	0° $\mathring{\text{A}}$ 03'39	0°51'32		1064 Mar 29 j 21:59	0° $\mathring{\text{H}}$	
	1058 May 16 j 12:24	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$		evening set	1064 May 15 j 10:50	10° $\mathring{\text{H}}$ 00'47	
min. Earth dist.	1058 May 17 j 12:43	29° $\mathring{\text{M}}$ 52'15	4.29692 AU				
direct	1058 Jul 17 j 03:01	25° $\mathring{\text{M}}$ 05'05		conjunction	1064 May 29 j 05:10	13° $\mathring{\text{H}}$ 09'51	0°-20'-42
	1058 Sep 14 j 02:24	0° $\mathring{\text{A}}$		minimum elong	1064 May 29 j 05:11	13° $\mathring{\text{H}}$ 09'51	0°20'43
evening set	1058 Nov 19 j 15:20	13° $\mathring{\text{A}}$ 17'53		max. Earth dist.	1064 May 31 j 05:44	13° $\mathring{\text{H}}$ 37'40	6.14125 AU
max. Earth dist.	1058 Nov 30 j 10:46	15° $\mathring{\text{A}}$ 46'15	6.23039 AU	morning rise	1064 Jun 12 j 00:19	16° $\mathring{\text{H}}$ 18'59	
					1064 Aug 18 j 20:49	0° $\mathring{\text{B}}$	
conjunction	1058 Dec 02 j 07:07	16° $\mathring{\text{A}}$ 11'42	0°17'23	retrograde	1064 Oct 16 j 17:25	5° $\mathring{\text{B}}$ 07'34	
minimum elong	1058 Dec 02 j 07:08	16° $\mathring{\text{A}}$ 11'42	0°17'23	min. Earth dist.	1064 Dec 14 j 06:58	0° $\mathring{\text{B}}$ 13'10	4.21037 AU
morning rise	1058 Dec 14 j 22:34	19° $\mathring{\text{A}}$ 05'36		opposition	1064 Dec 15 j 08:37	0° $\mathring{\text{B}}$ 04'29	0°-1'-28
	1059 Feb 04 j 14:29	0° $\mathring{\text{B}}$			1064 Dec 15 j 21:52	30° $\mathring{\text{R}}$ $\mathring{\text{H}}$	
retrograde	1059 Apr 19 j 15:10	7° $\mathring{\text{B}}$ 34'52		asc. node	1064 Dec 25 j 14:38	28° $\mathring{\text{H}}$ 42'26	
desc. node	1059 May 28 j 23:14	5° $\mathring{\text{B}}$ 17'45		direct	1065 Feb 12 j 22:26	25° $\mathring{\text{H}}$ 03'20	
opposition	1059 Jun 19 j 11:36	2° $\mathring{\text{B}}$ 40'59	0°-3'-10		1065 Apr 12 j 05:35	0° $\mathring{\text{B}}$	
min. Earth dist.	1059 Jun 20 j 12:53	2° $\mathring{\text{B}}$ 32'52	4.16019 AU	evening set	1065 Jun 19 j 18:54	13° $\mathring{\text{B}}$ 28'51	
	1059 Jul 11 j 13:45	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$					
direct	1059 Aug 19 j 07:35	27° $\mathring{\text{A}}$ 45'02		conjunction	1065 Jul 03 j 10:50	16° $\mathring{\text{B}}$ 30'52	0°18'21
	1059 Sep 26 j 13:39	0° $\mathring{\text{B}}$		minimum elong	1065 Jul 03 j 10:49	16° $\mathring{\text{B}}$ 30'51	0°18'22
evening set	1059 Dec 22 j 12:05	16° $\mathring{\text{B}}$ 33'13		max. Earth dist.	1065 Jul 04 j 14:58	16° $\mathring{\text{B}}$ 46'31	6.27870 AU
max. Earth dist.	1060 Jan 03 j 06:36	19° $\mathring{\text{B}}$ 19'43	6.09352 AU	morning rise	1065 Jul 17 j 01:25	19° $\mathring{\text{B}}$ 31'59	
					1065 Sep 06 j 06:28	0° $\mathring{\text{B}}$	
conjunction	1060 Jan 04 j 06:28	19° $\mathring{\text{B}}$ 33'49	0°-21'-52	retrograde	1065 Nov 17 j 10:48	7° $\mathring{\text{B}}$ 17'48	
minimum elong	1060 Jan 04 j 06:26	19° $\mathring{\text{B}}$ 33'48	0°21'52	opposition	1066 Jan 16 j 06:42	2° $\mathring{\text{B}}$ 18'23	0°51'59
morning rise	1060 Jan 17 j 02:00	22° $\mathring{\text{B}}$ 35'19		min. Earth dist.	1066 Jan 15 j 21:07	2° $\mathring{\text{B}}$ 21'34	4.33902 AU
	1060 Feb 18 j 19:05	0° $\mathring{\approx}$			1066 Feb 03 j 07:49	30° $\mathring{\text{R}}$ $\mathring{\text{B}}$	
retrograde	1060 May 25 j 09:23	12° $\mathring{\approx}$ 11'24		direct	1066 Mar 18 j 04:57	27° $\mathring{\text{B}}$ 15'40	
opposition	1060 Jul 24 j 21:15	7° $\mathring{\approx}$ 14'19	-1°00'-19		1066 Apr 30 j 12:02	0° $\mathring{\text{B}}$	
min. Earth dist.	1060 Jul 25 j 04:24	7° $\mathring{\approx}$ 11'58	4.03449 AU		1066 Jul 22 j 09:22	15° $\mathring{\text{B}}$	
direct	1060 Sep 22 j 07:54	2° $\mathring{\approx}$ 20'23		evening set	1066 Jul 23 j 05:34	15° $\mathring{\text{B}}$ 10'55	
	1060 Dec 27 j 12:03	15° $\mathring{\approx}$					
evening set	1061 Jan 25 j 09:14	21° $\mathring{\approx}$ 42'12		conjunction	1066 Aug 05 j 14:38	18° $\mathring{\text{B}}$ 05'32	0°50'14
				minimum elong	1066 Aug 05 j 14:36	18° $\mathring{\text{B}}$ 05'30	0°50'14
conjunction	1061 Feb 07 j 09:02	24° $\mathring{\approx}$ 49'41	0°-54'-54	max. Earth dist.	1066 Aug 05 j 14:38	18° $\mathring{\text{B}}$ 05'31	6.38873 AU
minimum elong	1061 Feb 07 j 08:59	24° $\mathring{\approx}$ 49'39	0°54'54	morning rise	1066 Aug 18 j 21:17	20° $\mathring{\text{B}}$ 58'46	

	1066 Oct 02 j 05:32	0°♏			1072 Feb 01 j 23:11	0°≈		
retrograde	1066 Dec 17 j 22:13	8°♏02'05			1072 Apr 23 j 12:38	15°≈		
opposition	1067 Feb 16 j 02:25	3°♏06'20	1°28'06	retrograde	1072 May 30 j 09:09	17°≈05'10		
min. Earth dist.	1067 Feb 16 j 10:38	3°♏03'39	4.42399 AU		1072 Jul 06 j 09:59	15°≈		
	1067 Mar 13 j 19:54	30°♏		opposition	1072 Jul 29 j 21:04	12°≈07'36	-1°-6'-54	
direct	1067 Apr 19 j 03:15	28°♏03'17		min. Earth dist.	1072 Jul 30 j 01:00	12°≈06'19	4.02504 AU	
	1067 May 25 j 20:03	0°♏		direct	1072 Sep 27 j 02:56	7°≈13'49		
evening set	1067 Aug 24 j 01:36	15°♏40'56			1072 Dec 08 j 15:33	15°≈		
max. Earth dist.	1067 Sep 05 j 02:43	18°♏17'06	6.44198 AU	evening set	1073 Jan 30 j 04:42	26°≈37'55		
conjunction	1067 Sep 06 j 02:57	18°♏30'14	1°07'07	conjunction	1073 Feb 12 j 05:17	29°≈46'02	0°-58'00	
minimum elong	1067 Sep 06 j 02:56	18°♏30'14	1°07'07	minimum elong	1073 Feb 12 j 05:14	29°≈46'01	0°58'01	
morning rise	1067 Sep 19 j 01:11	21°♏18'04		max. Earth dist.	1073 Feb 12 j 14:08	29°≈51'23	5.98420 AU	
	1067 Oct 31 j 22:06	0°♏			1073 Feb 13 j 04:25	0°≈		
retrograde	1068 Jan 17 j 03:43	8°♏05'14		morning rise	1073 Feb 25 j 08:40	2°≈55'46		
opposition	1068 Mar 17 j 16:59	3°♏12'14	1°39'39	retrograde	1073 Jul 07 j 10:55	23°≈25'50		
min. Earth dist.	1068 Mar 18 j 16:41	3°♏04'37	4.44371 AU	opposition	1073 Sep 05 j 11:22	18°≈24'17	-1°-39'-26	
	1068 Apr 13 j 19:41	30°♏		min. Earth dist.	1073 Sep 04 j 18:10	18°≈30'03	3.96365 AU	
direct	1068 May 19 j 08:49	28°♏10'02		direct	1073 Nov 02 j 15:37	13°≈30'31		
	1068 Jun 24 j 03:27	0°♏			1074 Feb 22 j 16:20	0°≈		
evening set	1068 Sep 22 j 22:05	15°♏45'08		evening set	1074 Mar 08 j 01:02	3°≈10'07		
max. Earth dist.	1068 Oct 03 j 22:03	18°♏09'00	6.42587 AU					
conjunction	1068 Oct 05 j 17:02	18°♏32'31	1°05'36	conjunction	1074 Mar 21 j 09:37	6°≈22'46	-1°-7'-22	
minimum elong	1068 Oct 05 j 17:03	18°♏32'31	1°05'35	minimum elong	1074 Mar 21 j 09:37	6°≈22'46	1°07'23	
morning rise	1068 Oct 18 j 09:37	21°♏18'48		max. Earth dist.	1074 Mar 23 j 01:02	6°≈46'30	5.96393 AU	
	1068 Nov 29 j 17:55	0°♏		morning rise	1074 Apr 03 j 21:11	9°≈37'00		
retrograde	1069 Feb 16 j 04:09	8°♏17'29			1074 Aug 04 j 04:50	0°≈		
opposition	1069 Apr 17 j 23:44	3°♏25'39	1°24'29	retrograde	1074 Aug 14 j 01:25	0°≈09'38		
min. Earth dist.	1069 Apr 19 j 09:54	3°♏14'46	4.39313 AU		1074 Aug 23 j 20:41	30°≈		
	1069 May 17 j 17:03	30°♏		min. Earth dist.	1074 Oct 11 j 09:54	25°≈15'44	3.98817 AU	
direct	1069 Jun 19 j 15:47	28°♏25'06		opposition	1074 Oct 12 j 16:58	25°≈05'11	-1°-32'-46	
	1069 Jul 22 j 14:19	0°♏		direct	1074 Dec 09 j 14:24	20°≈09'28		
	1069 Oct 18 j 01:41	15°♏			1075 Mar 02 j 07:03	0°≈		
evening set	1069 Oct 23 j 14:28	16°♏13'13		evening set	1075 Apr 14 j 13:24	9°≈38'29		
max. Earth dist.	1069 Nov 03 j 05:52	18°♏35'23	6.34412 AU					
conjunction	1069 Nov 05 j 06:24	19°♏02'31	0°45'58	conjunction	1075 Apr 28 j 05:04	12°≈51'23	0°-50'-28	
minimum elong	1069 Nov 05 j 06:26	19°♏02'32	0°45'57	minimum elong	1075 Apr 28 j 05:07	12°≈51'25	0°50'29	
morning rise	1069 Nov 17 j 20:38	21°♏51'14		max. Earth dist.	1075 Apr 30 j 09:57	13°≈22'32	6.03008 AU	
	1069 Dec 26 j 08:34	0°♏		morning rise	1075 May 07 j 07:40	15°≈		
retrograde	1070 Mar 20 j 17:10	9°≈27'58			1075 May 11 j 23:12	16°≈05'18		
opposition	1070 May 20 j 16:38	4°≈35'42	0°44'48	retrograde	1075 Jul 17 j 12:13	0°≈		
min. Earth dist.	1070 May 22 j 02:25	4°≈24'56	4.28441 AU	min. Earth dist.	1075 Sep 18 j 18:34	5°≈53'30		
	1070 Jul 06 j 00:37	30°♏		opposition	1075 Nov 15 j 21:57	1°≈00'04	4.08817 AU	
direct	1070 Jul 21 j 14:52	29°♏37'31			1075 Nov 17 j 07:33	0°≈48'36	0°-50'-52	
	1070 Aug 06 j 06:44	0°♏		direct	1075 Nov 23 j 06:49	30°≈		
evening set	1070 Nov 24 j 01:27	17°≈52'48			1076 Jan 14 j 19:47	25°≈49'50		
max. Earth dist.	1070 Dec 04 j 23:29	20°≈23'06	6.21717 AU	evening set	1076 Mar 06 j 21:22	0°≈		
					1076 May 20 j 08:45	14°≈48'23		
conjunction	1070 Dec 06 j 17:14	20°≈47'09	0°12'12	conjunction	1076 Jun 03 j 03:18	17°≈56'54	0°-15'-26	
minimum elong	1070 Dec 06 j 17:15	20°≈47'09	0°12'12	minimum elong	1076 Jun 03 j 03:19	17°≈56'54	0°15'27	
behind sun begin	1070 Dec 06 j 11:48	20°≈44'02		behind sun begin	1076 Jun 03 j 01:39	17°≈55'58		
behind sun end	1070 Dec 06 j 22:42	20°≈50'17		behind sun end	1076 Jun 03 j 04:58	17°≈57'51		
morning rise	1070 Dec 19 j 08:55	23°≈41'43		max. Earth dist.	1076 Jun 05 j 02:07	18°≈23'39	6.15519 AU	
	1071 Jan 16 j 18:07	0°≈		morning rise	1076 Jun 16 j 22:10	21°≈05'19		
desc. node	1071 Apr 09 j 10:10	11°≈56'29			1076 Jul 28 j 09:52	0°≈		
retrograde	1071 Apr 24 j 12:43	12°≈17'50		retrograde	1076 Oct 21 j 06:14	9°≈46'36		
opposition	1071 Jun 24 j 08:09	7°≈23'35	0°-11'-13	asc. node	1076 Nov 05 j 23:01	9°≈21'55		
min. Earth dist.	1071 Jun 25 j 08:24	7°≈15'47	4.14700 AU	opposition	1076 Dec 19 j 20:19	4°≈43'59	0°06'23	
direct	1071 Aug 24 j 01:25	2°≈27'55		min. Earth dist.	1076 Dec 18 j 20:57	4°≈51'53	4.22466 AU	
evening set	1071 Dec 27 j 02:28	21°≈18'59			1077 Feb 04 j 06:32	30°≈		
				direct	1077 Feb 17 j 14:21	29°≈42'36		
					1077 Mar 02 j 23:46	0°≈		
conjunction	1072 Jan 08 j 21:18	24°≈20'18	0°-26'-59	evening set	1077 Jun 24 j 12:19	18°≈04'59		
minimum elong	1072 Jan 08 j 21:17	24°≈20'17	0°27'00					
max. Earth dist.	1072 Jan 08 j 00:02	24°≈07'42	6.08156 AU	conjunction	1077 Jul 08 j 03:34	21°≈06'08	0°23'22	
morning rise	1072 Jan 21 j 17:34	27°≈22'37		minimum elong	1077 Jul 08 j 03:32	21°≈06'08	0°23'23	

max. Earth dist.	1077 Jul 09 j 04:42	21° \mathfrak{G} 20'05	6.29228 AU	evening set	1083 Dec 31 j 19:41	26° \mathfrak{Z} 12'37	
morning rise	1077 Jul 21 j 17:19	24° \mathfrak{G} 06'20					
	1077 Aug 18 j 07:29	0° \mathfrak{Q}		conjunction	1084 Jan 13 j 15:05	29° \mathfrak{Z} 14'57	0°-32'-6
retrograde	1077 Nov 21 j 17:16	11° \mathfrak{Q} 46'08		minimum elong	1084 Jan 13 j 15:03	29° \mathfrak{Z} 14'56	0°32'07
opposition	1078 Jan 20 j 14:40	6° \mathfrak{Q} 47'11	0°58'13	max. Earth dist.	1084 Jan 12 j 20:58	29° \mathfrak{Z} 04'10	6.06402 AU
min. Earth dist.	1078 Jan 20 j 06:31	6° \mathfrak{Q} 49'53	4.35103 AU		1084 Jan 16 j 18:50	0° \approx	
direct	1078 Mar 22 j 15:45	1° \mathfrak{Q} 44'22		morning rise	1084 Jan 26 j 12:14	2° \approx 18'23	
	1078 Jul 05 j 22:19	15° \mathfrak{Q}			1084 Mar 25 j 10:48	15° \approx	
evening set	1078 Jul 27 j 18:04	19° \mathfrak{Q} 37'08		retrograde	1084 Jun 04 j 15:04	22° \approx 09'45	
				opposition	1084 Aug 04 j 00:53	17° \approx 11'36	-1°-13'-17
conjunction	1078 Aug 10 j 02:07	22° \mathfrak{Q} 30'55	0°53'34	min. Earth dist.	1084 Aug 04 j 02:16	17° \approx 11'09	4.01064 AU
minimum elong	1078 Aug 10 j 02:05	22° \mathfrak{Q} 30'54	0°53'34		1084 Aug 21 j 08:22	15° \mathfrak{R} \approx	
max. Earth dist.	1078 Aug 09 j 23:40	22° \mathfrak{Q} 29'35	6.39829 AU	direct	1084 Oct 02 j 03:05	12° \approx 17'52	
morning rise	1078 Aug 23 j 07:29	25° \mathfrak{Q} 23'17			1084 Nov 12 j 01:32	15° \approx	
	1078 Sep 14 j 02:40	0° \mathfrak{P}			1085 Jan 27 j 19:15	0° \mathfrak{H}	
retrograde	1078 Dec 22 j 03:45	12° \mathfrak{P} 23'01		evening set	1085 Feb 04 j 05:01	1° \mathfrak{H} 46'06	
opposition	1079 Feb 20 j 08:46	7° \mathfrak{P} 27'41	1°31'13				
min. Earth dist.	1079 Feb 20 j 19:08	7° \mathfrak{P} 24'19	4.43044 AU	conjunction	1085 Feb 17 j 06:46	4° \mathfrak{H} 55'09	-1°00'-49
direct	1079 Apr 23 j 12:42	2° \mathfrak{P} 24'43		minimum elong	1085 Feb 17 j 06:44	4° \mathfrak{H} 55'08	1°00'50
evening set	1079 Aug 28 j 09:55	20° \mathfrak{P} 01'00		max. Earth dist.	1085 Feb 17 j 20:55	5° \mathfrak{H} 03'42	5.97438 AU
max. Earth dist.	1079 Sep 09 j 06:09	22° \mathfrak{P} 34'36	6.44442 AU	morning rise	1085 Mar 02 j 11:13	8° \mathfrak{H} 05'49	
				retrograde	1085 Jul 12 j 18:32	28° \mathfrak{H} 40'01	
conjunction	1079 Sep 10 j 10:09	22° \mathfrak{P} 49'46	1°08'00	opposition	1085 Sep 10 j 16:47	23° \mathfrak{H} 38'01	-1°-40'-59
minimum elong	1079 Sep 10 j 10:08	22° \mathfrak{P} 49'46	1°07'59	min. Earth dist.	1085 Sep 09 j 21:25	23° \mathfrak{H} 44'31	3.95983 AU
morning rise	1079 Sep 23 j 07:33	25° \mathfrak{P} 37'09		direct	1085 Nov 07 j 18:17	18° \mathfrak{H} 44'07	
	1079 Oct 14 j 01:28	0° \mathfrak{A}			1086 Feb 04 j 15:25	0° \mathfrak{Y}	
retrograde	1080 Jan 21 j 10:07	12° \mathfrak{A} 23'57		evening set	1086 Mar 13 j 06:25	8° \mathfrak{Y} 24'38	
opposition	1080 Mar 22 j 00:10	7° \mathfrak{A} 31'07	1°39'04				
min. Earth dist.	1080 Mar 23 j 01:49	7° \mathfrak{A} 22'53	4.44187 AU	conjunction	1086 Mar 26 j 16:00	11° \mathfrak{Y} 37'41	-1°-6'-31
direct	1080 May 23 j 17:04	2° \mathfrak{A} 29'02		minimum elong	1086 Mar 26 j 16:01	11° \mathfrak{Y} 37'42	1°06'31
evening set	1080 Sep 27 j 03:59	20° \mathfrak{A} 04'31		max. Earth dist.	1086 Mar 28 j 09:24	12° \mathfrak{Y} 02'34	5.96635 AU
max. Earth dist.	1080 Oct 08 j 03:19	22° \mathfrak{A} 28'15	6.41960 AU	morning rise	1086 Apr 09 j 04:53	14° \mathfrak{Y} 52'21	
					1086 Jun 20 j 02:58	0° \mathfrak{B}	
conjunction	1080 Oct 09 j 22:28	22° \mathfrak{A} 51'53	1°03'52	retrograde	1086 Aug 19 j 03:41	5° \mathfrak{B} 21'57	
minimum elong	1080 Oct 09 j 22:29	22° \mathfrak{A} 51'54	1°03'53	min. Earth dist.	1086 Oct 16 j 10:06	0° \mathfrak{B} 28'32	3.99681 AU
morning rise	1080 Oct 22 j 14:19	25° \mathfrak{A} 38'10		opposition	1086 Oct 17 j 19:12	0° \mathfrak{B} 17'15	-1°-28'-39
	1080 Nov 12 j 00:22	0° \mathfrak{M}			1086 Oct 19 j 21:56	30° \mathfrak{R} \mathfrak{Y}	
retrograde	1081 Feb 20 j 12:43	12° \mathfrak{M} 40'05		direct	1086 Dec 14 j 17:00	25° \mathfrak{Y} 21'10	
opposition	1081 Apr 22 j 09:59	7° \mathfrak{M} 48'15	1°20'16		1087 Feb 07 j 02:22	0° \mathfrak{B}	
min. Earth dist.	1081 Apr 23 j 20:11	7° \mathfrak{M} 37'22	4.38255 AU	evening set	1087 Apr 19 j 18:41	14° \mathfrak{B} 47'16	
direct	1081 Jun 24 j 00:10	2° \mathfrak{M} 48'01			1087 Apr 20 j 16:29	15° \mathfrak{B}	
	1081 Oct 01 j 17:16	15° \mathfrak{M}					
evening set	1081 Oct 27 j 21:25	20° \mathfrak{M} 38'36		conjunction	1087 May 03 j 11:12	17° \mathfrak{B} 59'52	0°-46'-20
max. Earth dist.	1081 Nov 07 j 11:42	23° \mathfrak{M} 00'42	6.32989 AU	minimum elong	1087 May 03 j 11:15	17° \mathfrak{B} 59'54	0°46'20
				max. Earth dist.	1087 May 05 j 17:26	18° \mathfrak{B} 31'42	6.04449 AU
conjunction	1081 Nov 09 j 12:58	23° \mathfrak{M} 28'20	0°41'57	morning rise	1087 May 17 j 05:44	21° \mathfrak{B} 13'17	
minimum elong	1081 Nov 09 j 13:00	23° \mathfrak{M} 28'21	0°41'57		1087 Jun 25 j 19:38	0° \mathfrak{I}	
morning rise	1081 Nov 22 j 03:18	26° \mathfrak{M} 17'38		retrograde	1087 Sep 23 j 15:17	10° \mathfrak{I} 52'53	
	1081 Dec 08 j 23:50	0° \mathfrak{J}		min. Earth dist.	1087 Nov 20 j 19:05	5° \mathfrak{I} 59'11	4.10668 AU
retrograde	1082 Mar 25 j 09:48	14° \mathfrak{J} 01'04		opposition	1087 Nov 22 j 03:31	5° \mathfrak{I} 48'07	0°-43'-14
opposition	1082 May 25 j 08:23	9° \mathfrak{J} 08'35	0°37'43	direct	1088 Jan 19 j 20:03	0° \mathfrak{I} 48'57	
min. Earth dist.	1082 May 26 j 18:22	8° \mathfrak{J} 57'44	4.26709 AU	evening set	1088 May 25 j 09:26	19° \mathfrak{I} 41'54	
direct	1082 Jul 26 j 04:18	4° \mathfrak{J} 10'40					
evening set	1082 Nov 28 j 12:08	22° \mathfrak{J} 30'21		conjunction	1088 Jun 08 j 03:50	22° \mathfrak{I} 49'25	0°-9'-56
max. Earth dist.	1082 Dec 09 j 12:19	25° \mathfrak{J} 02'31	6.19828 AU	minimum elong	1088 Jun 08 j 03:50	22° \mathfrak{I} 49'25	0°09'57
				behind sun begin	1088 Jun 07 j 21:08	22° \mathfrak{I} 45'37	
conjunction	1082 Dec 11 j 04:18	25° \mathfrak{J} 25'37	0°06'51	behind sun end	1088 Jun 08 j 10:32	22° \mathfrak{I} 53'12	
minimum elong	1082 Dec 11 j 04:18	25° \mathfrak{J} 25'37	0°06'52	max. Earth dist.	1088 Jun 10 j 01:34	23° \mathfrak{I} 15'24	6.17640 AU
behind sun begin	1082 Dec 10 j 20:52	25° \mathfrak{J} 21'21		morning rise	1088 Jun 21 j 22:17	25° \mathfrak{I} 56'40	
behind sun end	1082 Dec 11 j 11:44	25° \mathfrak{J} 29'54			1088 Jul 10 j 05:30	0° \mathfrak{G}	
morning rise	1082 Dec 23 j 20:24	28° \mathfrak{J} 21'09		asc. node	1088 Sep 16 j 05:48	12° \mathfrak{G} 02'09	
	1082 Dec 31 j 01:16	0° \mathfrak{Z}		retrograde	1088 Oct 25 j 16:21	14° \mathfrak{G} 27'37	
desc. node	1083 Feb 17 j 21:44	10° \mathfrak{Z} 08'29		min. Earth dist.	1088 Dec 23 j 10:02	9° \mathfrak{G} 33'03	4.24665 AU
retrograde	1083 Apr 29 j 10:43	17° \mathfrak{Z} 06'20		opposition	1088 Dec 24 j 08:43	9° \mathfrak{G} 25'24	0°14'16
opposition	1083 Jun 29 j 06:24	12° \mathfrak{Z} 11'42	0°-19'-25	direct	1089 Feb 22 j 06:23	4° \mathfrak{G} 23'44	
min. Earth dist.	1083 Jun 30 j 03:55	12° \mathfrak{Z} 04'46	4.12798 AU	evening set	1089 Jun 29 j 05:43	22° \mathfrak{G} 40'09	
direct	1083 Aug 28 j 18:14	7° \mathfrak{Z} 16'21					

conjunction	1089 Jul 12 j 20:00	25° $\overline{54}$ 0'02	0°28'15	morning rise	1094 Dec 28 j 08:15	3° $\overline{3}$ 01'08	
minimum elong	1089 Jul 12 j 19:58	25° $\overline{54}$ 0'01	0°28'14	desc. node	1094 Dec 30 j 00:57	3° $\overline{3}$ 24'36	
max. Earth dist.	1089 Jul 13 j 17:01	25° $\overline{55}$ 1'38	6.31334 AU	retrograde	1095 May 04 j 12:37	21° $\overline{3}$ 57'46	
morning rise	1089 Jul 26 j 08:40	28° $\overline{53}$ 8'51		opposition	1095 Jul 04 j 06:04	17° $\overline{3}$ 02'44	0°-27'-31
	1089 Aug 01 j 13:31	0° Ω		min. Earth dist.	1095 Jul 05 j 01:27	16° $\overline{3}$ 56'28	4.10386 AU
	1089 Oct 29 j 17:24	15° Ω		direct	1095 Sep 02 j 13:06	12° $\overline{3}$ 07'40	
retrograde	1089 Nov 25 j 23:25	16° Ω 10'15			1095 Dec 31 j 14:24	0° \approx	
	1089 Dec 23 j 00:08	15° \overline{R} Ω		evening set	1096 Jan 05 j 15:03	1° \approx 11'14	
opposition	1090 Jan 24 j 21:29	11° Ω 11'48	1°04'00				
min. Earth dist.	1090 Jan 24 j 16:37	11° Ω 13'25	4.36947 AU	conjunction	1096 Jan 18 j 11:25	4° \approx 14'53	0°-37'00
direct	1090 Mar 27 j 04:25	6° Ω 08'51		minimum elong	1096 Jan 18 j 11:23	4° \approx 14'52	0°37'00
	1090 Jun 18 j 03:18	15° Ω		max. Earth dist.	1096 Jan 17 j 22:24	4° \approx 07'07	6.04248 AU
evening set	1090 Aug 01 j 03:59	23° Ω 56'58		morning rise	1096 Jan 31 j 09:27	7° \approx 19'43	
					1096 Mar 04 j 22:53	15° \approx	
conjunction	1090 Aug 14 j 10:55	26° Ω 49'43	0°56'31	retrograde	1096 Jun 10 j 00:22	27° \approx 21'13	
minimum elong	1090 Aug 14 j 10:53	26° Ω 49'42	0°56'31	opposition	1096 Aug 09 j 07:17	22° \approx 22'35	-1°-19'-11
max. Earth dist.	1090 Aug 14 j 04:37	26° Ω 46'18	6.41249 AU	min. Earth dist.	1096 Aug 09 j 05:30	22° \approx 23'10	3.99414 AU
morning rise	1090 Aug 27 j 15:04	29° Ω 41'01		direct	1096 Oct 07 j 03:54	17° \approx 29'03	
	1090 Aug 29 j 02:19	0° \overline{M}			1097 Jan 10 j 03:26	0° \overline{H}	
retrograde	1090 Dec 26 j 05:00	16° \overline{M} 36'08		evening set	1097 Feb 09 j 08:52	7° \overline{H} 02'13	
opposition	1091 Feb 24 j 12:37	11° \overline{M} 41'09	1°33'44				
min. Earth dist.	1091 Feb 25 j 01:03	11° \overline{M} 37'07	4.43964 AU	conjunction	1097 Feb 22 j 11:35	10° \overline{H} 12'13	-1°-3'-9
direct	1091 Apr 27 j 18:53	6° \overline{M} 38'11		minimum elong	1097 Feb 22 j 11:34	10° \overline{H} 12'12	1°03'11
evening set	1091 Sep 01 j 14:43	24° \overline{M} 12'21		max. Earth dist.	1097 Feb 23 j 05:30	10° \overline{H} 23'03	5.96428 AU
max. Earth dist.	1091 Sep 13 j 07:37	26° \overline{M} 44'07	6.44779 AU	morning rise	1097 Mar 07 j 17:27	13° \overline{H} 23'56	
					1097 May 27 j 13:09	0° \overline{Y}	
conjunction	1091 Sep 14 j 14:01	27° \overline{M} 00'36	1°08'29	retrograde	1097 Jul 18 j 02:59	4° \overline{Y} 01'55	
minimum elong	1091 Sep 14 j 14:00	27° \overline{M} 00'35	1°08'28		1097 Sep 08 j 11:38	30° \overline{R} \overline{H}	
morning rise	1091 Sep 27 j 10:21	29° \overline{M} 47'27		min. Earth dist.	1097 Sep 15 j 01:36	29° \overline{H} 07'11	3.95753 AU
	1091 Sep 28 j 09:40	0° \overline{A}		opposition	1097 Sep 16 j 00:50	28° \overline{H} 59'22	-1°-41'-40
retrograde	1092 Jan 25 j 13:05	16° \overline{A} 34'00		direct	1097 Nov 12 j 23:51	24° \overline{H} 05'16	
opposition	1092 Mar 26 j 04:23	11° \overline{A} 41'26	1°37'59		1098 Jan 13 j 15:23	0° \overline{Y}	
min. Earth dist.	1092 Mar 27 j 08:19	11° \overline{A} 32'30	4.43916 AU	evening set	1098 Mar 18 j 14:30	13° \overline{Y} 45'54	
direct	1092 May 27 j 22:40	6° \overline{A} 39'33					
evening set	1092 Oct 01 j 07:05	24° \overline{A} 15'56		conjunction	1098 Apr 01 j 01:21	16° \overline{Y} 59'14	-1°-5'-3
max. Earth dist.	1092 Oct 12 j 01:59	26° \overline{A} 37'38	6.41074 AU	minimum elong	1098 Apr 01 j 01:22	16° \overline{Y} 59'15	1°05'04
				max. Earth dist.	1098 Apr 02 j 23:21	17° \overline{Y} 26'50	5.97193 AU
conjunction	1092 Oct 14 j 00:53	27° \overline{A} 03'25	1°01'51	morning rise	1098 Apr 14 j 15:08	20° \overline{Y} 14'03	
minimum elong	1092 Oct 14 j 00:55	27° \overline{A} 03'25	1°01'51		1098 May 27 j 23:37	0° \overline{B}	
morning rise	1092 Oct 26 j 16:29	29° \overline{A} 49'55		retrograde	1098 Aug 24 j 09:07	10° \overline{B} 38'52	
	1092 Oct 27 j 10:57	0° \overline{M}		opposition	1098 Oct 22 j 22:56	5° \overline{B} 33'54	-1°-23'-43
	1093 Jan 20 j 00:48	15° \overline{M}		min. Earth dist.	1098 Oct 21 j 13:33	5° \overline{B} 45'17	4.00933 AU
retrograde	1093 Feb 24 j 21:17	16° \overline{M} 56'15		direct	1098 Dec 19 j 23:13	0° \overline{B} 37'22	
	1093 Apr 01 j 23:47	15° \overline{R} \overline{M}			1099 Apr 03 j 05:36	15° \overline{B}	
opposition	1093 Apr 26 j 18:12	12° \overline{M} 04'25	1°15'45	evening set	1099 Apr 25 j 01:22	19° \overline{B} 59'00	
min. Earth dist.	1093 Apr 28 j 05:46	11° \overline{M} 53'05	4.36795 AU				
direct	1093 Jun 28 j 06:54	7° \overline{M} 04'22		conjunction	1099 May 08 j 18:28	23° \overline{B} 11'03	0°-41'-46
	1093 Sep 13 j 20:39	15° \overline{M}		minimum elong	1099 May 08 j 18:31	23° \overline{B} 11'05	0°41'47
evening set	1093 Nov 01 j 02:18	24° \overline{M} 59'02		max. Earth dist.	1099 May 11 j 01:48	23° \overline{B} 43'22	6.06244 AU
max. Earth dist.	1093 Nov 11 j 17:19	27° \overline{M} 22'08	6.31066 AU	morning rise	1099 May 22 j 13:21	26° \overline{B} 23'46	
					1099 Jun 07 j 07:59	0° \overline{II}	
conjunction	1093 Nov 13 j 18:00	27° \overline{M} 49'33	0°37'48	retrograde	1099 Sep 28 j 09:34	15° \overline{II} 53'09	
minimum elong	1093 Nov 13 j 18:02	27° \overline{M} 49'34	0°37'47	opposition	1099 Nov 26 j 23:10	10° \overline{II} 48'35	0°-35'-15
	1093 Nov 23 j 09:36	0° \overline{A}		min. Earth dist.	1099 Nov 25 j 14:40	10° \overline{II} 59'39	4.12787 AU
morning rise	1093 Nov 26 j 08:18	0° \overline{A} 39'41		direct	1100 Jan 24 j 18:30	5° \overline{II} 49'00	
retrograde	1094 Mar 30 j 00:54	18° \overline{A} 31'49		evening set	1100 May 30 j 10:09	24° \overline{II} 35'47	
opposition	1094 May 29 j 23:33	13° \overline{A} 39'11	0°30'30				
min. Earth dist.	1094 May 31 j 08:37	13° \overline{A} 28'38	4.24438 AU	conjunction	1100 Jun 13 j 04:09	27° \overline{II} 42'10	0°-4'-20
direct	1094 Jul 30 j 14:40	8° \overline{A} 41'40		minimum elong	1100 Jun 13 j 04:08	27° \overline{II} 42'09	0°04'21
evening set	1094 Dec 02 j 23:02	27° \overline{A} 07'52		behind sun begin	1100 Jun 12 j 19:56	27° \overline{II} 37'32	
max. Earth dist.	1094 Dec 14 j 00:35	29° \overline{A} 41'42	6.17393 AU	behind sun end	1100 Jun 13 j 12:21	27° \overline{II} 46'47	
				max. Earth dist.	1100 Jun 14 j 22:00	28° \overline{II} 05'50	6.19885 AU
conjunction	1094 Dec 15 j 15:26	0° $\overline{3}$ 04'16	0°01'28		1100 Jun 23 j 08:18	0° $\overline{3}$	
minimum elong	1094 Dec 15 j 15:26	0° $\overline{3}$ 04'16	0°01'28	morning rise	1100 Jun 26 j 22:06	0° $\overline{3}$ 48'11	
behind sun begin	1094 Dec 15 j 07:26	29° \overline{A} 59'39		asc. node	1100 Jul 26 j 14:15	7° $\overline{3}$ 14'41	
behind sun end	1094 Dec 15 j 23:26	0° $\overline{3}$ 08'54		retrograde	1100 Oct 30 j 04:22	19° $\overline{3}$ 08'55	
	1094 Dec 15 j 08:04	0° $\overline{3}$		opposition	1100 Dec 28 j 21:11	14° $\overline{3}$ 07'11	0°22'07

min. Earth dist. 1100 Dec 28 j 01:38 14°13'45 4.26815 AU

direct	1100 Jan 24 j 18:30	5°II49'00		evening set	1105 Nov 05 j 11:32	29°III30'24	
evening set	1100 May 30 j 10:09	24°II35'47			1105 Nov 07 j 16:14	0°♂	
				max. Earth dist.	1105 Nov 16 j 01:37	1°♂53'41	6.29134 AU
conjunction	1100 Jun 13 j 04:09	27°II42'10	0°-4'-20				
minimum elong	1100 Jun 13 j 04:08	27°II42'09	0°04'21	conjunction	1105 Nov 18 j 03:03	2°♂21'39	0°33'14
behind sun begin	1100 Jun 12 j 19:56	27°II37'32		minimum elong	1105 Nov 18 j 03:04	2°♂21'40	0°33'15
behind sun end	1100 Jun 13 j 12:21	27°II46'47		morning rise	1105 Nov 30 j 17:41	5°♂12'40	
max. Earth dist.	1100 Jun 14 j 22:00	28°II05'50	6.19885 AU	retrograde	1106 Apr 03 j 21:20	23°♂13'31	
	1100 Jun 23 j 08:18	0°♂		opposition	1106 Jun 03 j 19:15	18°♂20'38	0°22'44
morning rise	1100 Jun 26 j 22:06	0°♂48'11		min. Earth dist.	1106 Jun 05 j 02:55	18°♂10'30	4.22310 AU
asc. node	1100 Jul 26 j 14:15	7°♂14'41		direct	1106 Aug 04 j 06:27	13°♂23'26	
retrograde	1100 Oct 30 j 04:22	19°♂08'55		desc. node	1106 Nov 08 j 11:05	25°♂24'43	
opposition	1100 Dec 28 j 21:11	14°♂07'11	0°22'07		1106 Nov 29 j 05:05	0°♂	
min. Earth dist.	1100 Dec 28 j 01:38	14°♂13'45	4.26815 AU	evening set	1106 Dec 07 j 13:53	1°♂55'25	
direct	1101 Feb 27 j 01:09	9°♂05'13		max. Earth dist.	1106 Dec 18 j 20:10	4°♂32'40	6.15284 AU
evening set	1101 Jul 03 j 22:49	27°♂16'09					
	1101 Jul 16 j 09:16	0°♂		conjunction	1106 Dec 20 j 06:52	4°♂52'55	0°-4'-13
conjunction	1101 Jul 17 j 12:17	0°♂14'52	0°33'00	minimum elong	1106 Dec 20 j 06:51	4°♂52'55	0°04'14
minimum elong	1101 Jul 17 j 12:15	0°♂14'51	0°33'00	behind sun begin	1106 Dec 19 j 22:58	4°♂48'20	
max. Earth dist.	1101 Jul 18 j 06:31	0°♂24'54	6.33222 AU	behind sun end	1106 Dec 20 j 14:44	4°♂57'29	
morning rise	1101 Jul 30 j 23:42	3°♂12'24		morning rise	1107 Jan 02 j 00:08	7°♂50'54	
	1101 Sep 28 j 17:35	15°♂		retrograde	1107 May 09 j 17:38	26°♂57'31	
retrograde	1101 Nov 30 j 04:08	20°♂36'35		opposition	1107 Jul 09 j 09:12	22°♂02'07	0°-35'-44
opposition	1102 Jan 29 j 04:53	15°♂38'39	1°09'32	min. Earth dist.	1107 Jul 10 j 01:58	21°♂56'41	4.08495 AU
min. Earth dist.	1102 Jan 29 j 01:47	15°♂39'41	4.38460 AU	direct	1107 Sep 07 j 10:59	17°♂07'25	
	1102 Feb 03 j 02:24	15°♂♂			1107 Dec 14 j 09:43	0°♂	
direct	1102 Mar 31 j 15:07	10°♂35'39		evening set	1108 Jan 10 j 13:16	6°♂16'04	
	1102 May 26 j 22:28	15°♂		conjunction	1108 Jan 23 j 10:13	9°♂20'41	0°-41'-46
evening set	1102 Aug 05 j 15:02	28°♂20'24		minimum elong	1108 Jan 23 j 10:11	9°♂20'39	0°41'46
	1102 Aug 13 j 07:28	0°♂		max. Earth dist.	1108 Jan 23 j 00:41	9°♂14'58	6.02757 AU
conjunction	1102 Aug 18 j 20:44	1°♂12'15	0°59'15	morning rise	1108 Feb 05 j 09:23	12°♂26'37	
minimum elong	1102 Aug 18 j 20:42	1°♂12'14	0°59'14		1108 Feb 16 j 05:19	15°♂	
max. Earth dist.	1102 Aug 18 j 09:49	1°♂06'20	6.42273 AU		1108 May 05 j 06:16	0°♂	
morning rise	1102 Aug 31 j 23:44	4°♂02'41		retrograde	1108 Jun 15 j 07:46	2°♂35'20	
retrograde	1102 Dec 30 j 10:23	20°♂54'36			1108 Jul 26 j 15:53	30°♂♂	
opposition	1103 Feb 28 j 18:29	16°♂00'04	1°35'54	opposition	1108 Aug 14 j 14:39	27°♂36'05	-1°-24'-32
min. Earth dist.	1103 Mar 01 j 10:20	15°♂54'56	4.44455 AU	min. Earth dist.	1108 Aug 14 j 08:30	27°♂38'08	3.98508 AU
direct	1103 May 02 j 04:44	10°♂57'10		direct	1108 Oct 12 j 06:54	22°♂42'37	
evening set	1103 Sep 05 j 21:49	28°♂30'32			1108 Dec 20 j 20:22	0°♂	
	1103 Sep 12 j 19:32	0°♂		evening set	1109 Feb 14 j 12:58	12°♂17'46	
max. Earth dist.	1103 Sep 17 j 10:10	0°♂59'58	6.44683 AU	conjunction	1109 Feb 27 j 16:51	15°♂28'22	-1°-5'-2
conjunction	1103 Sep 18 j 20:15	1°♂18'27	1°08'39	minimum elong	1109 Feb 27 j 16:50	15°♂28'21	1°05'02
minimum elong	1103 Sep 18 j 20:15	1°♂18'27	1°08'39	max. Earth dist.	1109 Feb 28 j 16:50	15°♂42'52	5.96198 AU
morning rise	1103 Oct 01 j 15:46	4°♂05'02		morning rise	1109 Mar 12 j 23:38	18°♂40'37	
retrograde	1104 Jan 29 j 19:18	20°♂52'44			1109 May 02 j 13:26	0°♂	
opposition	1104 Mar 30 j 12:04	16°♂00'19	1°36'25	retrograde	1109 Jul 23 j 10:56	9°♂18'48	
min. Earth dist.	1104 Mar 31 j 17:16	15°♂50'58	4.43262 AU	min. Earth dist.	1109 Sep 20 j 06:07	4°♂24'06	3.96237 AU
direct	1104 Jun 01 j 06:02	10°♂58'35		opposition	1109 Sep 21 j 06:51	4°♂15'46	-1°-41'-30
evening set	1104 Oct 05 j 13:24	28°♂36'51			1109 Oct 29 j 20:56	30°♂♂	
	1104 Oct 11 j 21:10	0°♂		direct	1109 Nov 18 j 06:04	29°♂21'25	
max. Earth dist.	1104 Oct 16 j 07:43	0°♂58'39	6.39911 AU		1109 Dec 07 j 13:48	0°♂	
conjunction	1104 Oct 18 j 06:48	1°♂24'36	0°59'26	evening set	1110 Mar 23 j 20:23	18°♂59'36	
minimum elong	1104 Oct 18 j 06:50	1°♂24'37	0°59'26	conjunction	1110 Apr 06 j 08:11	22°♂12'52	-1°-3'-7
morning rise	1104 Oct 30 j 21:55	4°♂11'25		minimum elong	1110 Apr 06 j 08:13	22°♂12'53	1°03'08
	1104 Dec 23 j 17:22	15°♂		max. Earth dist.	1110 Apr 08 j 08:57	22°♂42'01	5.98321 AU
retrograde	1105 Mar 01 j 09:11	21°♂23'01		morning rise	1110 Apr 19 j 22:56	25°♂27'33	
opposition	1105 May 01 j 06:50	16°♂31'12	1°10'38		1110 May 09 j 11:00	0°♂	
min. Earth dist.	1105 May 02 j 19:06	16°♂19'40	4.35183 AU		1110 Aug 07 j 20:30	15°♂	
	1105 May 13 j 09:52	15°♂♂		retrograde	1110 Aug 29 j 08:01	15°♂45'13	
direct	1105 Jul 02 j 17:40	11°♂31'30			1110 Sep 19 j 15:08	15°♂♂	
	1105 Aug 21 j 03:28	15°♂		min. Earth dist.	1110 Oct 26 j 11:46	10°♂51'58	4.02579 AU
				opposition	1110 Oct 27 j 22:26	10°♂40'09	-1°-18'-18

direct	1110 Dec 24 j 23:38	5°♏43'13		conjunction	1116 Oct 22 j 13:26	5°♍48'20	0°56'40
	1111 Mar 15 j 12:13	15°♏		minimum elong	1116 Oct 22 j 13:28	5°♍48'21	0°56'40
evening set	1111 Apr 30 j 03:57	24°♏59'27		morning rise	1116 Nov 04 j 04:22	8°♍35'37	
					1116 Dec 04 j 07:25	15°♍	
conjunction	1111 May 13 j 21:22	28°♏10'45	0°-37'-5	retrograde	1117 Mar 05 j 22:31	25°♍53'13	
minimum elong	1111 May 13 j 21:25	28°♏10'46	0°37'06	opposition	1117 May 05 j 20:49	21°♍01'20	1°05'01
max. Earth dist.	1111 May 16 j 02:31	28°♏41'39	6.08240 AU	min. Earth dist.	1117 May 07 j 08:14	20°♍50'03	4.33505 AU
	1111 May 21 j 17:31	0°♐		direct	1117 Jul 07 j 04:29	16°♍01'58	
morning rise	1111 May 27 j 16:31	1°♐22'37			1117 Oct 22 j 09:55	0°♑	
retrograde	1111 Oct 03 j 00:37	20°♐41'48		evening set	1117 Nov 09 j 21:33	4°♑05'10	
min. Earth dist.	1111 Nov 30 j 08:21	15°♐47'51	4.14899 AU	max. Earth dist.	1117 Nov 20 j 14:40	6°♑30'44	6.27295 AU
opposition	1111 Dec 01 j 14:44	15°♐37'30	0°-27'-21				
direct	1112 Jan 29 j 15:10	10°♐37'32		conjunction	1117 Nov 22 j 13:11	6°♑57'11	0°28'26
evening set	1112 Jun 04 j 06:25	29°♐18'32		minimum elong	1117 Nov 22 j 13:13	6°♑57'12	0°28'27
asc. node	1112 Jun 06 j 07:48	29°♐46'11		morning rise	1117 Dec 05 j 03:53	9°♑49'01	
	1112 Jun 07 j 08:26	0°♑		retrograde	1118 Apr 08 j 19:13	27°♑58'13	
				opposition	1118 Jun 08 j 16:10	23°♑05'06	0°14'45
conjunction	1112 Jun 18 j 00:12	2°♑23'52	0°01'11	min. Earth dist.	1118 Jun 09 j 22:37	22°♑55'21	4.20429 AU
minimum elong	1112 Jun 18 j 00:11	2°♑23'52	0°01'12	direct	1118 Aug 08 j 23:34	18°♑08'19	
behind sun begin	1112 Jun 17 j 15:50	2°♑19'11		desc. node	1118 Sep 18 j 02:03	20°♑34'28	
behind sun end	1112 Jun 18 j 08:33	2°♑28'33			1118 Nov 12 j 02:44	0°♒	
max. Earth dist.	1112 Jun 19 j 16:08	2°♑46'21	6.21953 AU	evening set	1118 Dec 12 j 05:11	6°♒44'56	
morning rise	1112 Jul 01 j 17:21	5°♑28'40					
retrograde	1112 Nov 03 j 11:58	23°♑40'23		conjunction	1118 Dec 24 j 22:22	9°♒43'17	0°-9'-47
opposition	1113 Jan 02 j 06:00	18°♑39'14	0°29'33	minimum elong	1118 Dec 24 j 22:21	9°♒43'17	0°09'48
min. Earth dist.	1113 Jan 01 j 12:14	18°♑45'11	4.28666 AU	behind sun begin	1118 Dec 24 j 15:46	9°♒39'26	
direct	1113 Mar 03 j 13:48	13°♑37'07		behind sun end	1118 Dec 25 j 04:57	9°♒47'08	
	1113 Jun 30 j 13:06	0°♓		max. Earth dist.	1118 Dec 23 j 13:40	9°♒24'08	6.13511 AU
evening set	1113 Jul 08 j 12:53	1°♓43'54		morning rise	1119 Jan 06 j 16:25	12°♒42'19	
					1119 Apr 09 j 01:23	0°♈	
conjunction	1113 Jul 22 j 01:15	4°♓41'35	0°37'26	retrograde	1119 May 14 j 20:17	1°♈57'38	
minimum elong	1113 Jul 22 j 01:12	4°♓41'33	0°37'26		1119 Jun 19 j 20:17	30°♈♂	
max. Earth dist.	1113 Jul 22 j 13:38	4°♓48'22	6.34712 AU	opposition	1119 Jul 14 j 11:52	27°♈01'40	0°-43'-41
morning rise	1113 Aug 04 j 11:43	7°♓38'05		min. Earth dist.	1119 Jul 15 j 00:52	26°♈57'27	4.06980 AU
	1113 Sep 08 j 18:40	15°♓		direct	1119 Sep 12 j 08:13	22°♈07'12	
retrograde	1113 Dec 04 j 09:39	24°♓56'48			1119 Nov 25 j 00:39	0°♈	
opposition	1114 Feb 02 j 10:22	19°♓59'26	1°14'33	evening set	1120 Jan 15 j 10:44	11°♈19'37	
min. Earth dist.	1114 Feb 02 j 10:56	19°♓59'14	4.39511 AU				
	1114 Mar 29 j 19:12	15°♈♓		conjunction	1120 Jan 28 j 08:33	14°♈25'04	0°-46'-12
direct	1114 Apr 05 j 01:17	14°♓56'22		minimum elong	1120 Jan 28 j 08:30	14°♈25'02	0°46'13
	1114 Apr 11 j 07:00	15°♓		max. Earth dist.	1120 Jan 28 j 04:46	14°♈22'48	6.01630 AU
	1114 Jul 28 j 12:29	0°♉			1120 Jan 30 j 18:44	15°♈	
evening set	1114 Aug 09 j 23:56	2°♉39'23		morning rise	1120 Feb 10 j 08:26	17°♈31'51	
					1120 Apr 07 j 08:57	0°♊	
conjunction	1114 Aug 23 j 04:46	5°♉30'38	1°01'36	retrograde	1120 Jun 20 j 15:23	7°♊46'12	
minimum elong	1114 Aug 23 j 04:44	5°♉30'37	1°01'35	opposition	1120 Aug 19 j 20:04	2°♊46'23	-1°-29'-11
max. Earth dist.	1114 Aug 22 j 15:01	5°♉23'11	6.42803 AU	min. Earth dist.	1120 Aug 19 j 11:57	2°♊49'05	3.97893 AU
morning rise	1114 Sep 05 j 06:34	8°♉20'25			1120 Sep 11 j 02:29	30°♈♈	
retrograde	1115 Jan 03 j 13:46	25°♉11'00		direct	1120 Oct 17 j 10:13	27°♈52'53	
opposition	1115 Mar 04 j 23:51	20°♉16'53	1°37'32		1120 Nov 22 j 06:28	0°♊	
min. Earth dist.	1115 Mar 05 j 17:01	20°♉11'20	4.44470 AU	evening set	1121 Feb 19 j 15:24	17°♊29'10	
direct	1115 May 06 j 10:41	15°♉14'09					
	1115 Aug 28 j 00:33	0°♋		conjunction	1121 Mar 04 j 20:15	20°♊40'15	-1°-6'-23
evening set	1115 Sep 10 j 04:29	2°♋48'12		minimum elong	1121 Mar 04 j 20:14	20°♊40'14	1°06'23
max. Earth dist.	1115 Sep 21 j 13:22	5°♋16'04	6.44183 AU	max. Earth dist.	1121 Mar 05 j 23:46	20°♊56'52	5.96129 AU
				morning rise	1121 Mar 18 j 04:15	23°♊53'02	
conjunction	1115 Sep 23 j 02:00	5°♋35'59	1°08'27		1121 Apr 13 j 08:39	0°♌	
minimum elong	1115 Sep 23 j 02:00	5°♋35'59	1°08'27	retrograde	1121 Jul 28 j 14:49	14°♌30'39	
morning rise	1115 Oct 05 j 20:48	8°♋22'29		min. Earth dist.	1121 Sep 25 j 06:48	9°♌36'27	3.96755 AU
retrograde	1116 Feb 03 j 03:52	25°♋12'46		opposition	1121 Sep 26 j 10:10	9°♌27'12	-1°-40'-34
opposition	1116 Apr 03 j 20:38	20°♋20'36	1°34'19	direct	1121 Nov 23 j 07:28	4°♌32'33	
min. Earth dist.	1116 Apr 05 j 03:57	20°♋10'36	4.42289 AU	evening set	1122 Mar 29 j 00:15	24°♌08'35	
direct	1116 Jun 05 j 15:17	15°♋19'09					
	1116 Sep 25 j 23:14	0°♍		conjunction	1122 Apr 11 j 12:57	27°♌21'47	-1°00'-46
evening set	1116 Oct 09 j 20:27	3°♍00'12		minimum elong	1122 Apr 11 j 12:59	27°♌21'48	1°00'46
max. Earth dist.	1116 Oct 20 j 12:46	5°♍21'25	6.38538 AU	max. Earth dist.	1122 Apr 13 j 14:17	27°♌51'11	5.99355 AU
					1122 Apr 22 j 15:07	0°♎	

morning rise	1122 Apr 25 j 04:35	0°♄36'20			1128 Sep 08 j 19:18	0°♍	
	1122 Jul 02 j 14:09	15°♄		evening set	1128 Oct 14 j 04:08	7°♍25'09	
retrograde	1122 Sep 03 j 05:25	20°♄47'33		max. Earth dist.	1128 Oct 24 j 20:42	9°♍46'54	6.37523 AU
min. Earth dist.	1122 Oct 31 j 09:47	15°♄54'03	4.03997 AU				
opposition	1122 Nov 01 j 20:00	15°♄42'22	-1°-12'-26	conjunction	1128 Oct 26 j 20:39	10°♍13'30	0°53'37
	1122 Nov 07 j 00:39	15°♄		minimum elong	1128 Oct 26 j 20:41	10°♍13'31	0°53'36
direct	1122 Dec 30 j 00:11	10°♄44'57		morning rise	1128 Nov 08 j 11:17	13°♍01'05	
	1123 Feb 20 j 04:00	15°♄			1128 Nov 17 j 12:23	15°♍	
evening set	1123 May 05 j 05:15	29°♄56'51			1129 Feb 22 j 15:37	0°♄	
	1123 May 05 j 10:42	0°♄		retrograde	1129 Mar 10 j 13:20	0°♄23'30	
					1129 Mar 26 j 10:14	30°♍	
conjunction	1123 May 18 j 23:13	3°♄07'35	0°-32'-11	opposition	1129 May 10 j 11:33	25°♍31'35	0°59'04
minimum elong	1123 May 18 j 23:16	3°♄07'37	0°32'12	min. Earth dist.	1129 May 11 j 23:17	25°♍20'13	4.32266 AU
max. Earth dist.	1123 May 21 j 04:35	3°♄38'29	6.09931 AU	direct	1129 Jul 11 j 17:54	20°♍32'37	
morning rise	1123 Jun 01 j 18:20	6°♄18'42			1129 Oct 04 j 19:29	0°♄	
retrograde	1123 Oct 07 j 15:40	25°♄28'49		evening set	1129 Nov 14 j 07:13	8°♄38'21	
min. Earth dist.	1123 Dec 05 j 00:17	20°♄34'46	4.16682 AU	max. Earth dist.	1129 Nov 25 j 00:51	11°♄04'43	6.25942 AU
opposition	1123 Dec 06 j 05:24	20°♄24'53	0°-19'-20				
direct	1124 Feb 03 j 09:38	15°♄24'32		conjunction	1129 Nov 26 j 22:47	11°♄30'54	0°23'33
asc. node	1124 Apr 16 j 17:45	22°♄57'52		minimum elong	1129 Nov 26 j 22:48	11°♄30'55	0°23'33
	1124 May 21 j 19:57	0°♄		morning rise	1129 Dec 09 j 13:45	14°♄23'24	
evening set	1124 Jun 09 j 02:45	4°♄01'00			1130 Mar 02 j 10:43	0°♄	
				retrograde	1130 Apr 13 j 13:49	2°♄39'18	
conjunction	1124 Jun 22 j 19:56	7°♄05'23	0°06'38		1130 May 26 j 07:52	30°♍	
minimum elong	1124 Jun 22 j 19:56	7°♄05'23	0°06'37	opposition	1130 Jun 13 j 11:41	27°♄45'51	0°06'50
behind sun begin	1124 Jun 22 j 12:09	7°♄01'02		min. Earth dist.	1130 Jun 14 j 15:23	27°♄36'58	4.19048 AU
behind sun end	1124 Jun 23 j 03:43	7°♄09'43		desc. node	1130 Jul 30 j 06:28	23°♄08'55	
max. Earth dist.	1124 Jun 24 j 07:12	7°♄25'09	6.23672 AU	direct	1130 Aug 13 j 14:27	22°♄49'25	
morning rise	1124 Jul 06 j 12:37	10°♄09'11			1130 Oct 23 j 22:22	0°♄	
retrograde	1124 Nov 07 j 20:57	28°♄13'08		evening set	1130 Dec 16 j 18:46	11°♄29'06	
opposition	1125 Jan 06 j 15:31	23°♄12'27	0°36'49	max. Earth dist.	1130 Dec 28 j 07:55	14°♄11'25	6.12230 AU
min. Earth dist.	1125 Jan 06 j 00:28	23°♄17'29	4.30185 AU				
direct	1125 Mar 08 j 03:55	18°♄10'04		conjunction	1130 Dec 29 j 12:24	14°♄28'09	0°-15'-8
	1125 Jun 13 j 14:53	0°♄		minimum elong	1130 Dec 29 j 12:22	14°♄28'08	0°15'08
evening set	1125 Jul 13 j 03:23	6°♄13'35		behind sun begin	1130 Dec 29 j 09:20	14°♄26'22	
				behind sun end	1130 Dec 29 j 15:25	14°♄29'55	
conjunction	1125 Jul 26 j 14:58	9°♄10'24	0°41'41	morning rise	1131 Jan 11 j 06:51	17°♄27'56	
minimum elong	1125 Jul 26 j 14:56	9°♄10'23	0°41'41		1131 Mar 11 j 06:51	0°♍	
max. Earth dist.	1125 Jul 27 j 00:57	9°♄15'52	6.35925 AU	retrograde	1131 May 19 j 21:51	6°♍50'11	
morning rise	1125 Aug 09 j 00:09	12°♄05'55		opposition	1131 Jul 19 j 11:45	1°♍53'48	0°-51'-4
	1125 Aug 22 j 12:12	15°♄		min. Earth dist.	1131 Jul 19 j 23:12	1°♍50'04	4.05898 AU
retrograde	1125 Dec 08 j 15:12	29°♄19'59			1131 Aug 03 j 10:28	30°♍	
opposition	1126 Feb 06 j 17:15	24°♄23'09	1°19'14	direct	1131 Sep 17 j 05:06	26°♄59'34	
min. Earth dist.	1126 Feb 06 j 19:33	24°♄22'24	4.40357 AU		1131 Oct 30 j 21:30	0°♍	
direct	1126 Apr 09 j 10:35	19°♄20'07			1132 Jan 14 j 23:56	15°♍	
	1126 Jul 11 j 09:33	0°♄		evening set	1132 Jan 20 j 05:10	16°♍14'26	
evening set	1126 Aug 14 j 10:22	7°♄01'43					
				conjunction	1132 Feb 02 j 03:38	19°♍20'32	0°-50'-7
conjunction	1126 Aug 27 j 13:58	9°♄52'22	1°03'39	minimum elong	1132 Feb 02 j 03:36	19°♍20'31	0°50'08
minimum elong	1126 Aug 27 j 13:56	9°♄52'21	1°03'39	max. Earth dist.	1132 Feb 02 j 02:39	19°♍19'57	6.00836 AU
max. Earth dist.	1126 Aug 26 j 19:38	9°♄42'25	6.43218 AU	morning rise	1132 Feb 15 j 04:34	22°♍28'06	
morning rise	1126 Sep 09 j 14:51	12°♄41'34			1132 Mar 18 j 21:40	0°♄	
retrograde	1127 Jan 07 j 21:17	29°♄31'02		retrograde	1132 Jun 25 j 17:00	12°♄46'47	
opposition	1127 Mar 09 j 07:10	24°♄37'19	1°38'41	opposition	1132 Aug 24 j 21:11	7°♄46'31	-1°-32'-57
min. Earth dist.	1127 Mar 10 j 03:06	24°♄30'52	4.44469 AU	min. Earth dist.	1132 Aug 24 j 09:56	7°♄50'16	3.97498 AU
direct	1127 May 10 j 20:31	19°♄34'43		direct	1132 Oct 22 j 07:28	2°♄53'00	
	1127 Aug 10 j 21:46	0°♄		evening set	1133 Feb 24 j 14:09	22°♄30'06	
evening set	1127 Sep 14 j 12:22	7°♄09'09					
max. Earth dist.	1127 Sep 25 j 19:35	9°♄36'18	6.43781 AU	conjunction	1133 Mar 09 j 19:59	25°♄41'38	-1°-7'-10
				minimum elong	1133 Mar 09 j 19:58	25°♄41'37	1°07'11
conjunction	1127 Sep 27 j 09:14	9°♄56'48	1°07'54	max. Earth dist.	1133 Mar 11 j 01:54	25°♄59'41	5.96155 AU
minimum elong	1127 Sep 27 j 09:15	9°♄56'49	1°07'54	morning rise	1133 Mar 23 j 05:02	28°♄54'52	
morning rise	1127 Oct 10 j 03:12	12°♄43'10			1133 Mar 27 j 18:12	0°♄	
retrograde	1128 Feb 07 j 11:56	29°♄35'35		retrograde	1133 Aug 02 j 14:27	19°♄31'52	
opposition	1128 Apr 08 j 06:42	24°♄43'33	1°31'42	min. Earth dist.	1133 Sep 30 j 04:57	14°♄37'35	3.97200 AU
min. Earth dist.	1128 Apr 09 j 13:44	24°♄33'39	4.41544 AU	opposition	1133 Oct 01 j 08:59	14°♄28'05	-1°-38'-56
direct	1128 Jun 09 j 23:44	19°♄42'26		direct	1133 Nov 28 j 06:26	9°♄33'08	

evening set	1134 Apr 03 j 00:31	29° Υ 07'50		direct	1139 May 15 j 03:53	23° η 53'56	
	1134 Apr 06 j 16:39	0° \mathcal{B}			1139 Jul 22 j 02:40	0° \mathfrak{A}	
conjunction	1134 Apr 16 j 14:21	2° \mathcal{B} 21'09	0°-58'-3	evening set	1139 Sep 18 j 18:58	11° \mathfrak{A} 28'09	
minimum elong	1134 Apr 16 j 14:23	2° \mathcal{B} 21'10	0°58'04	max. Earth dist.	1139 Sep 29 j 22:27	13° \mathfrak{A} 53'32	6.43417 AU
max. Earth dist.	1134 Apr 18 j 17:57	2° \mathcal{B} 51'48	6.00196 AU	conjunction	1139 Oct 01 j 14:53	14° \mathfrak{A} 15'35	1°06'58
morning rise	1134 Apr 30 j 06:43	5° \mathcal{B} 35'40		minimum elong	1139 Oct 01 j 14:54	14° \mathfrak{A} 15'36	1°06'57
	1134 Jun 11 j 08:16	15° \mathcal{B}		morning rise	1139 Oct 14 j 08:18	17° \mathfrak{A} 01'51	
retrograde	1134 Sep 08 j 01:04	25° \mathcal{B} 41'21			1139 Dec 21 j 20:13	0° \mathcal{M}	
min. Earth dist.	1134 Nov 05 j 04:09	20° \mathcal{B} 47'50	4.05142 AU	retrograde	1140 Feb 11 j 21:13	3° \mathcal{M} 56'16	
opposition	1134 Nov 06 j 13:58	20° \mathcal{B} 36'18	-1°-6'-18		1140 Apr 05 j 07:55	30° \mathcal{R} \mathfrak{A}	
direct	1135 Jan 03 j 19:47	15° \mathcal{B} 38'33		opposition	1140 Apr 12 j 15:52	29° \mathfrak{A} 04'18	1°28'34
	1135 Apr 18 j 21:58	0° \mathcal{I}		min. Earth dist.	1140 Apr 14 j 00:53	28° \mathfrak{A} 53'46	4.40744 AU
evening set	1135 May 10 j 03:57	4° \mathcal{I} 47'35		direct	1140 Jun 14 j 09:22	24° \mathfrak{A} 03'20	
					1140 Aug 19 j 21:59	0° \mathcal{M}	
conjunction	1135 May 23 j 22:08	7° \mathcal{I} 57'51	0°-27'-14	evening set	1140 Oct 18 j 10:27	11° \mathcal{M} 47'48	
minimum elong	1135 May 23 j 22:10	7° \mathcal{I} 57'53	0°27'14	max. Earth dist.	1140 Oct 29 j 02:19	14° \mathcal{M} 09'34	6.36326 AU
max. Earth dist.	1135 May 26 j 00:40	8° \mathcal{I} 27'00	6.11279 AU				
morning rise	1135 Jun 06 j 17:33	11° \mathcal{I} 08'26		conjunction	1140 Oct 31 j 02:44	14° \mathcal{M} 36'30	0°50'14
	1135 Oct 01 j 13:55	0° \mathfrak{S}		minimum elong	1140 Oct 31 j 02:46	14° \mathcal{M} 36'31	0°50'15
retrograde	1135 Oct 12 j 04:00	0° \mathfrak{S} 11'10			1140 Nov 01 j 20:59	15° \mathcal{M}	
	1135 Oct 22 j 17:08	30° \mathcal{R} \mathcal{I}		morning rise	1140 Nov 12 j 17:08	17° \mathcal{M} 24'29	
opposition	1135 Dec 10 j 18:03	25° \mathcal{I} 07'35	0°-11'-28		1141 Jan 15 j 18:09	0° \mathcal{J}	
min. Earth dist.	1135 Dec 09 j 14:08	25° \mathcal{I} 17'04	4.18105 AU	retrograde	1141 Mar 15 j 01:49	4° \mathcal{J} 52'25	
direct	1136 Feb 08 j 01:40	20° \mathcal{I} 06'54		opposition	1141 May 15 j 01:14	0° \mathcal{J} 00'18	0°52'45
asc. node	1136 Feb 27 j 06:45	20° \mathcal{I} 42'49			1141 May 15 j 02:11	30° \mathcal{R} \mathcal{M}	
	1136 May 03 j 23:22	0° \mathfrak{S}		min. Earth dist.	1141 May 16 j 11:47	29° \mathcal{M} 49'18	4.30730 AU
evening set	1136 Jun 13 j 21:19	8° \mathfrak{S} 40'14		direct	1141 Jul 16 j 03:42	25° \mathcal{M} 01'37	
					1141 Sep 13 j 15:11	0° \mathcal{J}	
conjunction	1136 Jun 27 j 14:12	11° \mathfrak{S} 43'51	0°11'52	evening set	1141 Nov 18 j 16:25	13° \mathcal{J} 11'06	
minimum elong	1136 Jun 27 j 14:11	11° \mathfrak{S} 43'50	0°11'52	max. Earth dist.	1141 Nov 29 j 11:54	15° \mathcal{J} 39'06	6.24184 AU
behind sun begin	1136 Jun 27 j 08:32	11° \mathfrak{S} 40'41					
behind sun end	1136 Jun 27 j 19:50	11° \mathfrak{S} 46'59		conjunction	1141 Dec 01 j 08:03	16° \mathcal{J} 04'23	0°18'29
max. Earth dist.	1136 Jun 28 j 23:21	12° \mathfrak{S} 02'23	6.25087 AU	minimum elong	1141 Dec 01 j 08:04	16° \mathcal{J} 04'24	0°18'29
morning rise	1136 Jul 11 j 06:01	14° \mathfrak{S} 46'42		morning rise	1141 Dec 13 j 23:17	18° \mathcal{J} 57'43	
	1136 Oct 01 j 00:44	0° \mathcal{Q}			1142 Feb 04 j 12:34	0° \mathfrak{Z}	
retrograde	1136 Nov 12 j 05:47	2° \mathcal{Q} 44'04		retrograde	1142 Apr 18 j 11:42	7° \mathfrak{Z} 22'03	
	1136 Dec 24 j 08:33	30° \mathcal{R} \mathfrak{S}		desc. node	1142 Jun 09 j 18:42	3° \mathfrak{Z} 33'32	
min. Earth dist.	1137 Jan 10 j 11:03	27° \mathfrak{S} 48'16	4.31480 AU	opposition	1142 Jun 18 j 07:58	2° \mathfrak{Z} 28'15	0°-1'-15
opposition	1137 Jan 11 j 00:06	27° \mathfrak{S} 43'55	0°43'43	min. Earth dist.	1142 Jun 19 j 11:04	2° \mathfrak{Z} 19'33	4.17166 AU
direct	1137 Mar 12 j 16:14	22° \mathfrak{S} 41'25			1142 Jul 08 j 11:40	30° \mathcal{R} \mathcal{J}	
	1137 May 25 j 10:09	0° \mathcal{Q}		direct	1142 Aug 18 j 07:22	27° \mathcal{J} 32'05	
evening set	1137 Jul 17 j 17:17	10° \mathcal{Q} 42'17			1142 Sep 27 j 10:26	0° \mathfrak{Z}	
				evening set	1142 Dec 21 j 09:32	16° \mathfrak{Z} 16'42	
conjunction	1137 Jul 31 j 03:47	13° \mathcal{Q} 38'15	0°45'37	max. Earth dist.	1143 Jan 02 j 01:22	19° \mathfrak{Z} 01'16	6.10389 AU
minimum elong	1137 Jul 31 j 03:44	13° \mathcal{Q} 38'13	0°45'37				
max. Earth dist.	1137 Jul 31 j 09:20	13° \mathcal{Q} 41'17	6.36995 AU	conjunction	1143 Jan 03 j 03:39	19° \mathfrak{Z} 16'45	0°-20'-30
	1137 Aug 06 j 09:23	15° \mathcal{Q}		minimum elong	1143 Jan 03 j 03:38	19° \mathfrak{Z} 16'45	0°20'31
morning rise	1137 Aug 13 j 12:01	16° \mathcal{Q} 32'54		morning rise	1143 Jan 15 j 22:55	22° \mathfrak{Z} 17'39	
	1137 Oct 23 j 21:36	0° \mathcal{M}			1143 Feb 19 j 03:02	0° \approx	
retrograde	1137 Dec 12 j 21:10	3° \mathcal{M} 42'40		retrograde	1143 May 24 j 23:58	11° \approx 48'59	
	1138 Feb 01 j 12:05	30° \mathcal{R} \mathcal{Q}		opposition	1143 Jul 24 j 13:46	6° \approx 52'05	0°-58'-20
opposition	1138 Feb 10 j 23:44	28° \mathcal{Q} 46'14	1°23'23	min. Earth dist.	1143 Jul 24 j 21:41	6° \approx 49'30	4.04281 AU
min. Earth dist.	1138 Feb 11 j 04:23	28° \mathcal{Q} 44'42	4.41151 AU	direct	1143 Sep 22 j 01:30	1° \approx 58'02	
direct	1138 Apr 13 j 20:11	23° \mathcal{Q} 43'08			1143 Dec 29 j 01:35	15° \approx	
	1138 Jun 21 j 13:33	0° \mathcal{M}		evening set	1144 Jan 25 j 03:11	21° \approx 17'29	
evening set	1138 Aug 18 j 19:38	11° \mathcal{M} 23'07					
				conjunction	1144 Feb 07 j 02:32	24° \approx 24'33	0°-53'-50
conjunction	1138 Aug 31 j 22:22	14° \mathcal{M} 13'11	1°05'19	minimum elong	1144 Feb 07 j 02:30	24° \approx 24'31	0°53'50
minimum elong	1138 Aug 31 j 22:21	14° \mathcal{M} 13'10	1°05'20	max. Earth dist.	1144 Feb 07 j 05:38	24° \approx 26'24	5.99582 AU
max. Earth dist.	1138 Aug 31 j 02:46	14° \mathcal{M} 02'34	6.43665 AU	morning rise	1144 Feb 20 j 04:29	27° \approx 33'07	
morning rise	1138 Sep 13 j 22:01	17° \mathcal{M} 01'46			1144 Mar 01 j 12:10	0° \mathcal{K}	
	1138 Nov 21 j 23:38	0° \mathfrak{A}		retrograde	1144 Jul 01 j 00:08	17° \mathcal{K} 57'47	
retrograde	1139 Jan 12 j 01:57	3° \mathfrak{A} 49'52		opposition	1144 Aug 30 j 02:13	12° \mathcal{K} 56'56	-1°-36'-12
	1139 Mar 05 j 06:39	30° \mathcal{R} \mathcal{M}		min. Earth dist.	1144 Aug 29 j 12:46	13° \mathcal{K} 01'25	3.96752 AU
opposition	1139 Mar 13 j 13:45	28° \mathcal{M} 56'24	1°39'16	direct	1144 Oct 27 j 10:13	8° \mathcal{K} 03'18	
min. Earth dist.	1139 Mar 14 j 10:43	28° \mathcal{M} 49'39	4.44532 AU	evening set	1145 Mar 01 j 17:51	27° \mathcal{K} 42'28	

	1145 Mar 11 j 06:23	0°♈		max. Earth dist.	1150 Sep 04 j 03:08	18°♏13'07	6.44430 AU
conjunction	1145 Mar 15 j 00:59	0°♈54'39	-1°-7'-29	conjunction	1150 Sep 05 j 03:32	18°♏26'20	1°06'35
minimum elong	1145 Mar 15 j 01:00	0°♈54'39	1°07'30	minimum elong	1150 Sep 05 j 03:31	18°♏26'19	1°06'35
max. Earth dist.	1145 Mar 16 j 11:53	1°♈15'42	5.95991 AU	morning rise	1150 Sep 18 j 02:14	21°♏14'13	
morning rise	1145 Mar 28 j 11:10	4°♈08'29			1150 Oct 31 j 08:32	0°♏	
retrograde	1145 Aug 07 j 19:54	24°♈44'50		retrograde	1151 Jan 16 j 04:45	8°♏00'27	
min. Earth dist.	1145 Oct 05 j 06:58	19°♈50'47	3.97666 AU	opposition	1151 Mar 17 j 17:28	3°♏07'16	1°39'16
opposition	1145 Oct 06 j 12:30	19°♈40'46	-1°-36'-28	min. Earth dist.	1151 Mar 18 j 17:09	2°♏59'38	4.44723 AU
direct	1145 Dec 03 j 09:08	14°♈45'34			1151 Apr 12 j 23:42	30°♏♏	
	1146 Mar 20 j 16:49	0°♏		direct	1151 May 19 j 09:19	28°♏04'53	
evening set	1146 Apr 08 j 06:07	4°♏18'36			1151 Jun 25 j 00:33	0°♏	
				evening set	1151 Sep 22 j 22:00	15°♏38'49	
conjunction	1146 Apr 21 j 20:43	7°♏31'50	0°-54'-46	max. Earth dist.	1151 Oct 03 j 23:36	18°♏03'20	6.43004 AU
minimum elong	1146 Apr 21 j 20:46	7°♏31'52	0°54'48				
max. Earth dist.	1146 Apr 24 j 00:44	8°♏02'38	6.01243 AU	conjunction	1151 Oct 05 j 17:23	18°♏26'09	1°05'41
morning rise	1146 May 05 j 14:03	10°♏46'14		minimum elong	1151 Oct 05 j 17:24	18°♏26'10	1°05'40
	1146 May 23 j 21:25	15°♏		morning rise	1151 Oct 18 j 10:01	21°♏12'19	
	1146 Aug 22 j 13:20	0°♏			1151 Nov 30 j 09:49	0°♏	
retrograde	1146 Sep 12 j 22:24	0°♏44'59		retrograde	1152 Feb 16 j 01:56	8°♏09'22	
	1146 Oct 04 j 04:18	30°♏♏		opposition	1152 Apr 16 j 22:05	3°♏17'30	1°25'03
min. Earth dist.	1146 Nov 10 j 01:18	25°♏51'45	4.06671 AU	min. Earth dist.	1152 Apr 18 j 07:53	3°♏06'44	4.39739 AU
opposition	1146 Nov 11 j 11:51	25°♏39'58	0°-59'-26		1152 May 15 j 04:11	30°♏♏	
direct	1147 Jan 08 j 20:10	20°♏41'48		direct	1152 Jun 18 j 13:48	28°♏16'49	
	1147 Mar 31 j 02:27	0°♏			1152 Jul 23 j 00:35	0°♏	
evening set	1147 May 15 j 06:29	9°♏46'15			1152 Oct 17 j 17:47	15°♏	
				evening set	1152 Oct 22 j 14:01	16°♏04'02	
conjunction	1147 May 29 j 00:56	12°♏55'47	0°-21'-55	max. Earth dist.	1152 Nov 02 j 03:43	18°♏25'10	6.34789 AU
minimum elong	1147 May 29 j 00:58	12°♏55'47	0°21'56				
max. Earth dist.	1147 May 31 j 03:08	13°♏24'37	6.13200 AU	conjunction	1152 Nov 04 j 05:56	18°♏53'13	0°46'41
morning rise	1147 Jun 11 j 20:05	16°♏05'22		minimum elong	1152 Nov 04 j 05:58	18°♏53'14	0°46'41
	1147 Aug 19 j 21:59	0°♏		morning rise	1152 Nov 16 j 20:23	21°♏41'50	
retrograde	1147 Oct 16 j 19:15	4°♏58'12			1152 Dec 26 j 04:35	0°♏	
min. Earth dist.	1147 Dec 14 j 06:50	0°♏03'51	4.20219 AU	retrograde	1153 Mar 19 j 15:34	9°♏16'57	
	1147 Dec 14 j 18:13	30°♏♏		opposition	1153 May 19 j 13:29	4°♏24'43	0°46'16
opposition	1147 Dec 15 j 08:56	29°♏55'01	0°-3'-21	min. Earth dist.	1153 May 21 j 01:01	4°♏13'23	4.28723 AU
asc. node	1148 Jan 07 j 11:05	27°♏00'06			1153 Jul 01 j 08:57	30°♏♏	
direct	1148 Feb 12 j 21:34	24°♏54'03		direct	1153 Jul 20 j 13:27	29°♏26'18	
	1148 Apr 12 j 02:17	0°♏			1153 Aug 08 j 17:00	0°♏	
evening set	1148 Jun 18 j 17:20	13°♏21'34		evening set	1153 Nov 23 j 00:23	17°♏41'28	
				max. Earth dist.	1153 Dec 03 j 21:03	20°♏10'53	6.21877 AU
conjunction	1148 Jul 02 j 09:28	16°♏23'57	0°17'06				
minimum elong	1148 Jul 02 j 09:27	16°♏23'56	0°17'06	conjunction	1153 Dec 05 j 16:22	20°♏35'48	0°13'24
max. Earth dist.	1148 Jul 03 j 15:35	16°♏40'43	6.27228 AU	minimum elong	1153 Dec 05 j 16:23	20°♏35'49	0°13'24
morning rise	1148 Jul 16 j 00:26	19°♏25'30		behind sun begin	1153 Dec 05 j 11:42	20°♏33'08	
	1148 Sep 05 j 18:16	0°♏		behind sun end	1153 Dec 05 j 21:04	20°♏38'30	
retrograde	1148 Nov 16 j 12:06	7°♏13'46		morning rise	1153 Dec 18 j 08:01	23°♏30'18	
opposition	1149 Jan 15 j 08:39	2°♏14'06	0°50'19		1154 Jan 16 j 15:01	0°♏	
min. Earth dist.	1149 Jan 14 j 21:15	2°♏17'54	4.33483 AU	desc. node	1154 Apr 21 j 04:38	12°♏04'49	
	1149 Feb 01 j 19:09	30°♏♏		retrograde	1154 Apr 23 j 08:01	12°♏05'15	
direct	1149 Mar 17 j 04:38	27°♏11'26		opposition	1154 Jun 23 j 03:59	7°♏11'08	0°-9'-17
	1149 Apr 30 j 01:57	0°♏		min. Earth dist.	1154 Jun 24 j 04:38	7°♏03'13	4.14731 AU
	1149 Jul 21 j 16:20	15°♏		direct	1154 Aug 22 j 21:14	2°♏15'21	
evening set	1149 Jul 22 j 05:37	15°♏07'11		evening set	1154 Dec 26 j 01:30	21°♏07'16	
conjunction	1149 Aug 04 j 15:02	18°♏01'59	0°49'15	conjunction	1155 Jan 07 j 20:13	24°♏08'36	0°-25'-43
minimum elong	1149 Aug 04 j 15:00	18°♏01'58	0°49'14	minimum elong	1155 Jan 07 j 20:12	24°♏08'35	0°25'44
max. Earth dist.	1149 Aug 04 j 17:35	18°♏03'22	6.38708 AU	max. Earth dist.	1155 Jan 06 j 21:09	23°♏54'56	6.08043 AU
morning rise	1149 Aug 17 j 21:54	20°♏55'24		morning rise	1155 Jan 20 j 16:23	27°♏10'55	
	1149 Oct 01 j 13:32	0°♏			1155 Feb 01 j 18:10	0°♏	
retrograde	1149 Dec 17 j 00:33	7°♏59'11			1155 Apr 25 j 06:20	15°♏	
opposition	1150 Feb 15 j 04:25	3°♏03'15	1°26'57	retrograde	1155 May 30 j 06:56	16°♏53'27	
min. Earth dist.	1150 Feb 15 j 11:42	3°♏00'52	4.42453 AU		1155 Jul 04 j 09:42	15°♏♏	
	1150 Mar 12 j 09:22	30°♏♏		opposition	1155 Jul 29 j 17:45	11°♏56'02	-1°-5'-13
direct	1150 Apr 18 j 04:49	28°♏00'12		min. Earth dist.	1155 Jul 29 j 23:02	11°♏54'18	4.02239 AU
	1150 May 25 j 09:32	0°♏		direct	1155 Sep 27 j 01:11	7°♏02'09	
evening set	1150 Aug 23 j 02:00	15°♏37'02			1155 Dec 09 j 12:59	15°♏	

evening set	1156 Jan 30 j 03:52	26° \approx 27'51		conjunction	1161 Aug 09 j 03:00	22° Ω 27'54	0°52'41
				minimum elong	1161 Aug 09 j 02:58	22° Ω 27'53	0°52'41
conjunction	1156 Feb 12 j 04:25	29° \approx 36'06	0°-57'-8	max. Earth dist.	1161 Aug 09 j 01:23	22° Ω 27'01	6.40058 AU
minimum elong	1156 Feb 12 j 04:23	29° \approx 36'05	0°57'08	morning rise	1161 Aug 22 j 08:39	25° Ω 20'17	
max. Earth dist.	1156 Feb 12 j 13:13	29° \approx 41'25	5.98050 AU		1161 Sep 13 j 10:11	0° \cap	
	1156 Feb 13 j 20:00	0° \mathbb{H}		retrograde	1161 Dec 21 j 04:22	12° \cap 19'29	
morning rise	1156 Feb 25 j 07:31	2° \mathbb{H} 45'54		opposition	1162 Feb 19 j 10:35	7° \cap 23'56	1°30'12
retrograde	1156 Jul 06 j 10:29	23° \mathbb{H} 17'10		min. Earth dist.	1162 Feb 19 j 20:04	7° \cap 20'51	4.43312 AU
opposition	1156 Sep 04 j 10:09	18° \mathbb{H} 15'48	-1°-38'-40	direct	1162 Apr 22 j 13:30	2° \cap 20'53	
min. Earth dist.	1156 Sep 03 j 17:30	18° \mathbb{H} 21'22	3.95932 AU	evening set	1162 Aug 27 j 10:15	19° \cap 56'02	
direct	1156 Nov 01 j 14:02	13° \mathbb{H} 22'07		max. Earth dist.	1162 Sep 08 j 07:56	22° \cap 30'15	6.44733 AU
	1157 Feb 22 j 04:10	0° \cap					
evening set	1157 Mar 07 j 01:08	3° \cap 03'25		conjunction	1162 Sep 09 j 10:49	22° \cap 44'49	1°07'34
				minimum elong	1162 Sep 09 j 10:49	22° \cap 44'49	1°07'33
conjunction	1157 Mar 20 j 09:19	6° \cap 16'08	-1°-7'-13	morning rise	1162 Sep 22 j 08:25	25° \cap 32'11	
minimum elong	1157 Mar 20 j 09:19	6° \cap 16'09	1°07'13		1162 Oct 13 j 12:30	0° Δ	
max. Earth dist.	1157 Mar 21 j 23:16	6° \cap 39'01	5.95933 AU	retrograde	1163 Jan 20 j 10:34	12° Δ 18'06	
morning rise	1157 Apr 02 j 20:50	9° \cap 30'32		opposition	1163 Mar 22 j 00:30	7° Δ 25'12	1°38'51
	1157 Aug 05 j 23:03	0° \mathbb{B}		min. Earth dist.	1163 Mar 23 j 02:21	7° Δ 16'54	4.44462 AU
retrograde	1157 Aug 13 j 01:18	0° \mathbb{B} 05'02		direct	1163 May 23 j 17:49	2° Δ 23'02	
	1157 Aug 20 j 03:34	30° \mathbb{R} \cap		evening set	1163 Sep 27 j 04:28	19° Δ 57'53	
min. Earth dist.	1157 Oct 10 j 09:51	25° \cap 11'29	3.98378 AU	max. Earth dist.	1163 Oct 08 j 01:45	22° Δ 20'27	6.42182 AU
opposition	1157 Oct 11 j 17:59	25° \cap 00'33	-1°-33'-6				
direct	1157 Dec 08 j 14:53	20° \cap 04'55		conjunction	1163 Oct 09 j 23:04	22° Δ 45'15	1°04'03
	1158 Mar 01 j 15:40	0° \mathbb{B}		minimum elong	1163 Oct 09 j 23:05	22° Δ 45'16	1°04'03
evening set	1158 Apr 13 j 14:04	9° \mathbb{B} 35'06		morning rise	1163 Oct 22 j 15:20	25° Δ 31'35	
					1163 Nov 12 j 14:24	0° \mathbb{M}	
conjunction	1158 Apr 27 j 05:38	12° \mathbb{B} 48'05	0°-50'-59	retrograde	1164 Feb 20 j 13:09	12° \mathbb{M} 32'37	
minimum elong	1158 Apr 27 j 05:41	12° \mathbb{B} 48'06	0°51'00	opposition	1164 Apr 21 j 09:03	7° \mathbb{M} 40'47	1°20'58
max. Earth dist.	1158 Apr 29 j 12:02	13° \mathbb{B} 20'11	6.02643 AU	min. Earth dist.	1164 Apr 22 j 20:10	7° \mathbb{M} 29'35	4.38406 AU
	1158 May 06 j 13:32	15° \mathbb{B}		direct	1164 Jun 22 j 23:49	2° \mathbb{M} 40'19	
morning rise	1158 May 10 j 23:25	16° \mathbb{B} 02'02			1164 Oct 01 j 08:06	15° \mathbb{M}	
	1158 Jul 16 j 18:26	0° \mathbb{I}		evening set	1164 Oct 26 j 22:01	20° \mathbb{M} 31'08	
retrograde	1158 Sep 17 j 22:04	5° \mathbb{I} 51'56		max. Earth dist.	1164 Nov 06 j 12:34	22° \mathbb{M} 53'16	6.33057 AU
min. Earth dist.	1158 Nov 15 j 01:02	0° \mathbb{I} 58'21	4.08549 AU				
opposition	1158 Nov 16 j 10:34	0° \mathbb{I} 46'55	0°-52'-2	conjunction	1164 Nov 08 j 13:56	23° \mathbb{M} 20'57	0°42'43
	1158 Nov 22 j 04:41	30° \mathbb{R} \mathbb{B}		minimum elong	1164 Nov 08 j 13:58	23° \mathbb{M} 20'58	0°42'43
direct	1159 Jan 13 j 23:03	25° \mathbb{B} 48'15		morning rise	1164 Nov 21 j 04:13	26° \mathbb{M} 10'15	
	1159 Mar 07 j 03:24	0° \mathbb{I}			1164 Dec 08 j 14:42	0° \mathbb{X}	
evening set	1159 May 20 j 09:40	14° \mathbb{I} 46'48		retrograde	1165 Mar 24 j 08:15	13° \mathbb{X} 53'05	
				opposition	1165 May 24 j 06:47	9° \mathbb{X} 00'44	0°39'10
conjunction	1159 Jun 03 j 04:05	17° \mathbb{I} 55'20	0°-16'-23	min. Earth dist.	1165 May 25 j 17:10	8° \mathbb{X} 49'46	4.26704 AU
minimum elong	1159 Jun 03 j 04:06	17° \mathbb{I} 55'21	0°16'25	direct	1165 Jul 25 j 02:18	4° \mathbb{X} 02'44	
max. Earth dist.	1159 Jun 05 j 04:56	18° \mathbb{I} 23'14	6.15358 AU	evening set	1165 Nov 27 j 13:20	22° \mathbb{X} 23'22	
morning rise	1159 Jun 16 j 22:59	21° \mathbb{I} 03'49		max. Earth dist.	1165 Dec 08 j 11:37	24° \mathbb{X} 54'30	6.19741 AU
	1159 Jul 28 j 13:26	0° \mathbb{S}					
retrograde	1159 Oct 21 j 07:49	9° \mathbb{S} 45'57		conjunction	1165 Dec 10 j 05:26	25° \mathbb{X} 18'41	0°07'58
asc. node	1159 Nov 16 j 15:02	8° \mathbb{S} 38'09		minimum elong	1165 Dec 10 j 05:26	25° \mathbb{X} 18'41	0°07'59
opposition	1159 Dec 19 j 23:45	4° \mathbb{S} 43'08	0°04'50	behind sun begin	1165 Dec 09 j 22:17	25° \mathbb{X} 14'34	
min. Earth dist.	1159 Dec 18 j 22:32	4° \mathbb{S} 51'39	4.22430 AU	behind sun end	1165 Dec 10 j 12:36	25° \mathbb{X} 22'48	
	1160 Feb 04 j 02:36	30° \mathbb{R} \mathbb{I}		morning rise	1165 Dec 22 j 21:40	28° \mathbb{X} 14'18	
direct	1160 Feb 17 j 16:00	29° \mathbb{I} 41'48			1165 Dec 30 j 14:34	0° \mathbb{Z}	
	1160 Mar 02 j 09:39	0° \mathbb{S}		desc. node	1166 Feb 28 j 14:15	11° \mathbb{Z} 59'07	
evening set	1160 Jun 23 j 13:17	18° \mathbb{S} 03'23		retrograde	1166 Apr 28 j 10:49	16° \mathbb{Z} 59'23	
				opposition	1166 Jun 28 j 05:09	12° \mathbb{Z} 04'55	0°-17'-39
conjunction	1160 Jul 07 j 04:33	21° \mathbb{S} 04'32	0°22'17	min. Earth dist.	1166 Jun 29 j 03:42	11° \mathbb{Z} 57'38	4.12645 AU
minimum elong	1160 Jul 07 j 04:31	21° \mathbb{S} 04'31	0°22'18	direct	1166 Aug 27 j 18:14	7° \mathbb{Z} 09'28	
max. Earth dist.	1160 Jul 08 j 06:20	21° \mathbb{S} 18'50	6.29309 AU	evening set	1166 Dec 30 j 21:19	26° \mathbb{Z} 07'10	
morning rise	1160 Jul 20 j 18:28	24° \mathbb{S} 04'44					
	1160 Aug 17 j 12:03	0° Ω		conjunction	1167 Jan 12 j 16:50	29° \mathbb{Z} 09'36	0°-30'-58
retrograde	1160 Nov 20 j 20:43	11° Ω 44'33		minimum elong	1167 Jan 12 j 16:48	29° \mathbb{Z} 09'35	0°30'59
opposition	1161 Jan 19 j 17:42	6° Ω 45'24	0°56'44	max. Earth dist.	1167 Jan 11 j 22:53	28° \mathbb{Z} 58'56	6.06225 AU
min. Earth dist.	1161 Jan 19 j 09:44	6° Ω 48'03	4.35271 AU		1167 Jan 16 j 05:32	0° \approx	
direct	1161 Mar 21 j 19:34	1° Ω 42'35		morning rise	1167 Jan 25 j 13:45	2° \approx 13'04	
	1161 Jul 05 j 04:21	15° Ω			1167 Mar 25 j 23:06	15° \approx	
evening set	1161 Jul 26 j 18:42	19° Ω 34'07		retrograde	1167 Jun 04 j 15:40	22° \approx 04'29	
				opposition	1167 Aug 04 j 00:36	17° \approx 06'36	-1°-11'-50

min. Earth dist.	1167 Aug 04 j 02:26	17° ≈ 06'00	4.00912 AU	direct	1173 Mar 26 j 04:48	6° Ω 07'03	
	1167 Aug 20 j 15:07	15° ℞			1173 Jun 17 j 07:24	15° Ω	
direct	1167 Oct 02 j 02:47	12° ≈ 12'58		evening set	1173 Jul 31 j 05:04	23° Ω 55'51	
	1167 Nov 12 j 17:46	15° ≈					
	1168 Jan 28 j 03:52	0° ℥		conjunction	1173 Aug 13 j 12:14	26° Ω 48'50	0°55'44
evening set	1168 Feb 04 j 06:52	1° ℥ 42'06		minimum elong	1173 Aug 13 j 12:11	26° Ω 48'49	0°55'45
				max. Earth dist.	1173 Aug 13 j 05:52	26° Ω 45'23	6.40953 AU
conjunction	1168 Feb 17 j 08:12	4° ℥ 51'05	-1°00'-5	morning rise	1173 Aug 26 j 16:48	29° Ω 40'25	
minimum elong	1168 Feb 17 j 08:10	4° ℥ 51'03	1°00'06		1173 Aug 28 j 05:09	0° ℞	
max. Earth dist.	1168 Feb 17 j 20:49	4° ℥ 58'42	5.97329 AU	retrograde	1173 Dec 25 j 09:28	16° ℞ 36'51	
morning rise	1168 Mar 01 j 12:32	8° ℥ 01'43		opposition	1174 Feb 23 j 15:49	11° ℞ 41'48	1°32'56
retrograde	1168 Jul 11 j 17:33	28° ℥ 35'55		min. Earth dist.	1174 Feb 24 j 04:40	11° ℞ 37'38	4.43686 AU
opposition	1168 Sep 09 j 17:30	23° ℥ 34'00	-1°-40'-22	direct	1174 Apr 26 j 22:25	6° ℞ 38'51	
min. Earth dist.	1168 Sep 08 j 21:10	23° ℥ 40'49	3.95930 AU	evening set	1174 Aug 31 j 17:17	24° ℞ 13'47	
direct	1168 Nov 06 j 19:08	18° ℥ 40'10		max. Earth dist.	1174 Sep 12 j 10:28	26° ℞ 45'45	6.44546 AU
	1169 Feb 04 j 00:04	0° ℣					
evening set	1169 Mar 12 j 07:21	8° ℣ 20'38		conjunction	1174 Sep 13 j 16:59	27° ℞ 02'17	1°08'10
				minimum elong	1174 Sep 13 j 16:59	27° ℞ 02'17	1°08'09
conjunction	1169 Mar 25 j 16:45	11° ℣ 33'33	-1°-6'-26	morning rise	1174 Sep 26 j 13:45	29° ℞ 49'24	
minimum elong	1169 Mar 25 j 16:46	11° ℣ 33'33	1°06'27		1174 Sep 27 j 09:26	0° ♄	
max. Earth dist.	1169 Mar 27 j 11:25	11° ℣ 59'12	5.96644 AU	retrograde	1175 Jan 24 j 16:31	16° ♄ 36'41	
morning rise	1169 Apr 08 j 05:08	14° ℣ 48'01		opposition	1175 Mar 26 j 07:39	11° ♄ 44'00	1°37'54
	1169 Jun 19 j 13:52	0° ♄		min. Earth dist.	1175 Mar 27 j 10:43	11° ♄ 35'19	4.43763 AU
retrograde	1169 Aug 18 j 05:36	5° ♄ 17'36		direct	1175 May 28 j 00:48	6° ♄ 42'01	
opposition	1169 Oct 16 j 20:36	0° ♄ 12'54	-1°-29'-5	evening set	1175 Oct 01 j 11:04	24° ♄ 19'05	
min. Earth dist.	1169 Oct 15 j 12:13	0° ♄ 23'55	3.99709 AU	max. Earth dist.	1175 Oct 12 j 07:53	26° ♄ 41'48	6.41032 AU
	1169 Oct 18 j 10:30	30° ℞ ℣					
direct	1169 Dec 13 j 19:44	25° ℣ 16'53		conjunction	1175 Oct 14 j 05:15	27° ♄ 06'43	1°02'02
	1170 Feb 06 j 14:41	0° ♄		minimum elong	1175 Oct 14 j 05:16	27° ♄ 06'44	1°02'02
evening set	1170 Apr 18 j 18:30	14° ♄ 42'16		morning rise	1175 Oct 26 j 20:57	29° ♄ 53'19	
	1170 Apr 20 j 00:50	15° ♄			1175 Oct 27 j 09:12	0° ♄	
conjunction	1170 May 02 j 10:40	17° ♄ 54'43	0°-46'-56	retrograde	1176 Jan 19 j 16:36	15° ♄	
minimum elong	1170 May 02 j 10:43	17° ♄ 54'44	0°46'57		1176 Feb 25 j 00:28	16° ♄ 59'22	
max. Earth dist.	1170 May 04 j 17:48	18° ♄ 27'05	6.04449 AU	opposition	1176 Apr 01 j 15:42	15° ℞ ♄	
morning rise	1170 May 16 j 04:59	21° ♄ 08'01		min. Earth dist.	1176 Apr 25 j 21:14	12° ♄ 07'35	1°16'23
	1170 Jun 25 j 04:57	0° ♄		direct	1176 Apr 27 j 08:48	11° ♄ 56'16	4.36876 AU
retrograde	1170 Sep 22 j 15:10	10° ♄ 48'05			1176 Jun 27 j 10:20	7° ♄ 07'31	
min. Earth dist.	1170 Nov 19 j 19:25	5° ♄ 54'43	4.10627 AU	evening set	1176 Sep 12 j 17:37	15° ♄	
opposition	1170 Nov 21 j 05:02	5° ♄ 43'16	0°-44'-31	max. Earth dist.	1176 Oct 31 j 06:59	25° ♄ 02'13	
direct	1171 Jan 18 j 19:57	0° ♄ 44'13			1176 Nov 10 j 20:48	27° ♄ 24'37	6.31270 AU
evening set	1171 May 25 j 08:36	19° ♄ 36'45		conjunction	1176 Nov 12 j 22:38	27° ♄ 52'41	0°38'27
				minimum elong	1176 Nov 12 j 22:40	27° ♄ 52'42	0°38'26
conjunction	1171 Jun 08 j 02:48	22° ♄ 44'14	0°-10'-58		1176 Nov 22 j 08:54	0° ♄	
minimum elong	1171 Jun 08 j 02:49	22° ♄ 44'14	0°10'59	morning rise	1176 Nov 25 j 13:11	0° ♄ 42'47	
behind sun begin	1171 Jun 07 j 20:37	22° ♄ 40'44		retrograde	1177 Mar 29 j 03:39	18° ♄ 33'34	
behind sun end	1171 Jun 08 j 09:00	22° ♄ 47'45		opposition	1177 May 29 j 01:50	13° ♄ 40'57	0°31'44
max. Earth dist.	1171 Jun 09 j 23:50	23° ♄ 09'51	6.17528 AU	min. Earth dist.	1177 May 30 j 10:49	13° ♄ 30'25	4.24767 AU
morning rise	1171 Jun 21 j 21:20	25° ♄ 51'34		direct	1177 Jul 29 j 18:06	8° ♄ 43'18	
	1171 Jul 10 j 13:46	0° ♄		evening set	1177 Dec 02 j 03:04	27° ♄ 08'44	
asc. node	1171 Sep 27 j 04:34	13° ♄ 05'31		max. Earth dist.	1177 Dec 13 j 05:52	29° ♄ 43'04	6.17838 AU
retrograde	1171 Oct 25 j 18:49	14° ♄ 23'48					
opposition	1171 Dec 24 j 10:49	9° ♄ 21'28	0°12'40	conjunction	1177 Dec 14 j 19:35	0° ♄ 04'58	0°02'28
min. Earth dist.	1171 Dec 23 j 12:51	9° ♄ 28'52	4.24477 AU	minimum elong	1177 Dec 14 j 19:36	0° ♄ 04'59	0°02'27
direct	1172 Feb 22 j 08:53	4° ♄ 19'52		behind sun begin	1177 Dec 14 j 11:37	0° ♄ 00'22	
evening set	1172 Jun 28 j 05:19	22° ♄ 36'27		behind sun end	1177 Dec 15 j 03:35	0° ♄ 09'35	
					1177 Dec 14 j 11:02	0° ♄	
conjunction	1172 Jul 11 j 19:55	25° ♄ 36'33	0°27'11	morning rise	1177 Dec 27 j 12:10	3° ♄ 01'34	
minimum elong	1172 Jul 11 j 19:53	25° ♄ 36'32	0°27'10	desc. node	1178 Jan 08 j 01:31	5° ♄ 40'12	
max. Earth dist.	1172 Jul 12 j 18:39	25° ♄ 49'06	6.31080 AU	retrograde	1178 May 03 j 13:23	21° ♄ 55'35	
morning rise	1172 Jul 25 j 08:45	28° ♄ 35'35		opposition	1178 Jul 03 j 06:42	17° ♄ 00'43	0°-25'-57
	1172 Jul 31 j 19:32	0° ♄		min. Earth dist.	1178 Jul 04 j 02:40	16° ♄ 54'16	4.10927 AU
	1172 Oct 29 j 04:39	15° ♄		direct	1178 Sep 01 j 14:56	12° ♄ 05'36	
retrograde	1172 Nov 25 j 00:44	16° ♄ 08'30			1178 Dec 30 j 22:59	0° ≈	
	1172 Dec 21 j 18:23	15° ℞ ♄		evening set	1179 Jan 04 j 17:29	1° ≈ 07'31	
opposition	1173 Jan 23 j 23:59	11° ♄ 09'56	1°02'38				
min. Earth dist.	1173 Jan 23 j 17:52	11° ♄ 11'58	4.36656 AU	conjunction	1179 Jan 17 j 13:27	4° ≈ 10'47	0°-35'-59

minimum elong	1179 Jan 17 j 13:25	4°≈10'46	0°35'59	retrograde	1184 Nov 29 j 08:08	20°Ω33'34	
max. Earth dist.	1179 Jan 16 j 22:32	4°≈01'54	6.04828 AU	opposition	1185 Jan 28 j 07:18	15°Ω35'32	1°08'13
morning rise	1179 Jan 30 j 11:21	7°≈15'15		min. Earth dist.	1185 Jan 28 j 04:36	15°Ω36'25	4.37750 AU
	1179 Mar 05 j 10:08	15°≈			1185 Feb 01 j 19:04	15°RΩ	
retrograde	1179 Jun 09 j 21:20	27°≈13'38		direct	1185 Mar 30 j 16:58	10°Ω32'34	
opposition	1179 Aug 09 j 06:08	22°≈15'06	-1°-17'-49		1185 May 26 j 06:12	15°Ω	
min. Earth dist.	1179 Aug 09 j 04:05	22°≈15'46	3.99975 AU	evening set	1185 Aug 04 j 16:25	28°Ω19'26	
direct	1179 Oct 07 j 03:58	17°≈21'30			1185 Aug 12 j 10:26	0°mp	
	1180 Jan 10 j 19:21	0°X					
evening set	1180 Feb 09 j 08:23	6°X52'40		conjunction	1185 Aug 17 j 22:41	1°mp11'45	0°58'32
				minimum elong	1185 Aug 17 j 22:39	1°mp11'44	0°58'32
conjunction	1180 Feb 22 j 10:52	10°X02'17	-1°-2'-32	max. Earth dist.	1185 Aug 17 j 13:44	1°mp06'54	6.41618 AU
minimum elong	1180 Feb 22 j 10:50	10°X02'16	1°02'33	morning rise	1185 Aug 31 j 02:00	4°mp02'37	
max. Earth dist.	1180 Feb 23 j 05:15	10°X13'24	5.96932 AU	retrograde	1185 Dec 29 j 14:03	20°mp56'55	
morning rise	1180 Mar 06 j 16:06	13°X13'31		opposition	1186 Feb 27 j 22:23	16°mp02'18	1°35'14
	1180 May 27 j 20:06	0°Y		min. Earth dist.	1186 Feb 28 j 12:27	15°mp57'45	4.43921 AU
retrograde	1180 Jul 17 j 00:53	3°Y49'15		direct	1186 May 01 j 06:02	10°mp59'30	
	1180 Sep 05 j 18:43	30°R X		evening set	1186 Sep 05 j 01:47	28°mp34'32	
opposition	1180 Sep 14 j 22:38	28°X46'48	-1°-41'-13		1186 Sep 11 j 16:01	0°Ω	
min. Earth dist.	1180 Sep 14 j 00:55	28°X54'07	3.96128 AU	max. Earth dist.	1186 Sep 16 j 15:34	1°Ω04'52	6.44343 AU
direct	1180 Nov 11 j 23:39	23°X52'46					
	1181 Jan 13 j 19:30	0°Y		conjunction	1186 Sep 18 j 00:31	1°Ω22'45	1°08'25
evening set	1181 Mar 17 j 11:38	13°Y31'50		minimum elong	1186 Sep 18 j 00:30	1°Ω22'45	1°08'25
				morning rise	1186 Sep 30 j 20:27	4°Ω09'38	
conjunction	1181 Mar 30 j 21:59	16°Y44'52	-1°-5'-9	retrograde	1187 Jan 29 j 01:24	20°Ω58'19	
minimum elong	1181 Mar 30 j 22:01	16°Y44'53	1°05'11	opposition	1187 Mar 30 j 16:47	16°Ω05'57	1°36'26
max. Earth dist.	1181 Apr 01 j 18:58	17°Y11'50	5.97395 AU	min. Earth dist.	1187 Mar 31 j 21:52	15°Ω56'39	4.43157 AU
morning rise	1181 Apr 13 j 11:28	19°Y59'26		direct	1187 Jun 01 j 11:10	11°Ω04'17	
	1181 May 28 j 00:36	0°Z		evening set	1187 Oct 05 j 18:45	28°Ω42'58	
retrograde	1181 Aug 23 j 05:11	10°Z23'52			1187 Oct 11 j 15:24	0°M	
min. Earth dist.	1181 Oct 20 j 10:32	5°Z30'31	4.00947 AU	max. Earth dist.	1187 Oct 16 j 13:38	1°M05'02	6.40079 AU
opposition	1181 Oct 21 j 20:24	5°Z18'59	-1°-24'-29				
direct	1181 Dec 18 j 19:39	0°Z22'34		conjunction	1187 Oct 18 j 12:23	1°M30'46	0°59'42
	1182 Apr 03 j 04:54	15°Z		minimum elong	1187 Oct 18 j 12:24	1°M30'47	0°59'42
evening set	1182 Apr 23 j 21:20	19°Z43'57		morning rise	1187 Oct 31 j 03:46	4°M17'37	
					1187 Dec 23 j 09:40	15°M	
conjunction	1182 May 07 j 14:03	22°Z55'55	0°-42'-37	retrograde	1188 Feb 29 j 12:40	21°M28'08	
minimum elong	1182 May 07 j 14:06	22°Z55'57	0°42'38	opposition	1188 Apr 30 j 10:37	16°M36'19	1°11'21
max. Earth dist.	1182 May 09 j 19:37	23°Z27'15	6.06053 AU	min. Earth dist.	1188 May 01 j 21:26	16°M25'14	4.35652 AU
morning rise	1182 May 21 j 08:47	26°Z08'39			1188 May 13 j 06:42	15°RM	
	1182 Jun 07 j 06:01	0°II		direct	1188 Jul 01 j 21:25	11°M36'36	
retrograde	1182 Sep 27 j 08:07	15°II39'53			1188 Aug 19 j 17:09	15°M	
opposition	1182 Nov 25 j 21:54	10°II35'14	0°-36'-50	evening set	1188 Nov 04 j 16:20	29°M34'06	
min. Earth dist.	1182 Nov 24 j 14:12	10°II46'02	4.12407 AU		1188 Nov 06 j 14:34	0°Z	
direct	1183 Jan 23 j 17:17	5°II35'45		max. Earth dist.	1188 Nov 15 j 08:51	1°Z58'28	6.29891 AU
evening set	1183 May 30 j 06:30	24°II23'29					
				conjunction	1188 Nov 17 j 07:58	2°Z25'05	0°34'00
conjunction	1183 Jun 13 j 00:42	27°II30'09	0°-5'-31	minimum elong	1188 Nov 17 j 07:59	2°Z25'06	0°34'00
minimum elong	1183 Jun 13 j 00:42	27°II30'09	0°05'32	morning rise	1188 Nov 29 j 22:23	5°Z15'44	
behind sun begin	1183 Jun 12 j 16:40	27°II25'37		retrograde	1189 Apr 02 j 22:20	23°Z13'04	
behind sun end	1183 Jun 13 j 08:44	27°II34'40		opposition	1189 Jun 02 j 20:30	18°Z20'18	0°24'10
max. Earth dist.	1183 Jun 14 j 20:18	27°II54'50	6.19349 AU	min. Earth dist.	1189 Jun 04 j 04:29	18°Z10'05	4.23316 AU
	1183 Jun 24 j 01:49	0°S		direct	1189 Aug 03 j 09:47	13°Z23'03	
morning rise	1183 Jun 26 j 18:39	0°S36'27		desc. node	1189 Nov 18 j 22:08	27°Z50'10	
asc. node	1183 Aug 07 j 15:01	9°S30'32			1189 Nov 28 j 13:11	0°Z	
retrograde	1183 Oct 30 j 04:33	19°S00'07		evening set	1189 Dec 06 j 16:02	1°Z51'43	
opposition	1183 Dec 28 j 21:35	13°S58'17	0°20'24	max. Earth dist.	1189 Dec 17 j 20:23	4°Z27'30	6.16433 AU
min. Earth dist.	1183 Dec 28 j 01:02	14°S05'12	4.26177 AU				
direct	1184 Feb 26 j 23:12	8°S56'28		conjunction	1189 Dec 19 j 08:40	4°Z48'37	0°-3'-4
evening set	1184 Jul 02 j 21:36	27°S09'14		minimum elong	1189 Dec 19 j 08:40	4°Z48'37	0°03'05
	1184 Jul 15 j 20:05	0°Ω		behind sun begin	1189 Dec 19 j 00:41	4°Z44'00	
				behind sun end	1189 Dec 19 j 16:38	4°Z53'14	
conjunction	1184 Jul 16 j 11:12	0°Ω08'20	0°31'55	morning rise	1190 Jan 01 j 01:51	7°Z46'02	
minimum elong	1184 Jul 16 j 11:10	0°Ω08'19	0°31'55	retrograde	1190 May 08 j 12:44	26°Z47'23	
max. Earth dist.	1184 Jul 17 j 04:33	0°Ω17'53	6.32520 AU	opposition	1190 Jul 08 j 06:12	21°Z52'02	0°-33'-51
morning rise	1184 Jul 29 j 23:09	3°Ω06'21		min. Earth dist.	1190 Jul 08 j 22:57	21°Z46'37	4.09678 AU
	1184 Sep 28 j 04:59	15°Ω		direct	1190 Sep 06 j 09:40	16°Z57'11	

	1190 Dec 14 j 07:24	0°♊			1196 Jun 29 j 20:18	0°♎	
evening set	1191 Jan 09 j 11:04	6°♊01'56		evening set	1196 Jul 07 j 12:44	1°♎40'11	
conjunction	1191 Jan 22 j 07:47	9°♊05'54	0°-40'-35	conjunction	1196 Jul 21 j 01:41	4°♎38'28	0°36'22
minimum elong	1191 Jan 22 j 07:45	9°♊05'53	0°40'35	minimum elong	1196 Jul 21 j 01:38	4°♎38'27	0°36'22
max. Earth dist.	1191 Jan 21 j 22:06	9°♊00'07	6.03850 AU	max. Earth dist.	1196 Jul 21 j 17:06	4°♎46'57	6.33718 AU
morning rise	1191 Feb 04 j 06:18	12°♊11'06		morning rise	1196 Aug 03 j 12:26	7°♎35'32	
	1191 Feb 16 j 05:36	15°♊			1196 Sep 07 j 22:54	15°♎	
	1191 May 07 j 19:31	0°♋		retrograde	1196 Dec 03 j 13:41	24°♎57'40	
retrograde	1191 Jun 15 j 01:04	2°♋14'56		opposition	1197 Feb 01 j 14:03	20°♎00'07	1°13'19
	1191 Jul 23 j 08:32	30°♋		min. Earth dist.	1197 Feb 01 j 12:44	20°♎00'33	4.38701 AU
opposition	1191 Aug 14 j 08:05	27°♋15'54	-1°-23'00		1197 Mar 29 j 12:30	15°♋♎	
min. Earth dist.	1191 Aug 14 j 04:26	27°♋17'06	3.99375 AU	direct	1197 Apr 04 j 02:21	14°♎57'07	
direct	1191 Oct 12 j 03:31	22°♋22'22			1197 Apr 09 j 16:30	15°♎	
	1191 Dec 22 j 12:30	0°♋			1197 Jul 27 j 10:36	0°♐	
evening set	1192 Feb 14 j 06:43	11°♋54'42		evening set	1197 Aug 09 j 03:02	2°♐42'06	
conjunction	1192 Feb 27 j 10:01	15°♋04'48	-1°-4'-24	conjunction	1197 Aug 22 j 08:05	5°♐33'42	1°00'56
minimum elong	1192 Feb 27 j 10:00	15°♋04'48	1°04'25	minimum elong	1197 Aug 22 j 08:03	5°♐33'41	1°00'55
max. Earth dist.	1192 Feb 28 j 07:02	15°♋17'30	5.96745 AU	max. Earth dist.	1197 Aug 21 j 18:46	5°♐26'29	6.42239 AU
morning rise	1192 Mar 11 j 16:27	18°♋16'37		morning rise	1197 Sep 04 j 10:28	8°♐23'53	
	1192 May 03 j 08:13	0°♌		retrograde	1198 Jan 02 j 20:29	25°♐16'01	
retrograde	1192 Jul 22 j 01:43	8°♌52'53		opposition	1198 Mar 04 j 04:54	20°♐21'44	1°36'56
opposition	1192 Sep 19 j 22:52	3°♌50'04	-1°-41'-15	min. Earth dist.	1198 Mar 04 j 21:44	20°♐16'16	4.44180 AU
min. Earth dist.	1192 Sep 18 j 22:39	3°♌58'14	3.96409 AU	direct	1198 May 05 j 15:40	15°♐18'56	
	1192 Oct 22 j 19:37	30°♌			1198 Aug 26 j 19:14	0°♑	
direct	1192 Nov 16 j 21:44	28°♌55'47		evening set	1198 Sep 09 j 09:01	2°♑53'24	
	1192 Dec 12 j 00:30	0°♌		max. Earth dist.	1198 Sep 20 j 20:40	5°♑22'40	6.44195 AU
evening set	1193 Mar 22 j 12:10	18°♌33'46					
conjunction	1193 Apr 04 j 23:33	21°♌46'57	-1°-3'-27	conjunction	1198 Sep 22 j 07:01	5°♑41'20	1°08'17
minimum elong	1193 Apr 04 j 23:35	21°♌46'58	1°03'28	minimum elong	1198 Sep 22 j 07:01	5°♑41'20	1°08'17
max. Earth dist.	1193 Apr 06 j 21:21	22°♌14'21	5.98106 AU	morning rise	1198 Oct 05 j 02:01	8°♑27'55	
morning rise	1193 Apr 18 j 13:58	25°♌01'35		retrograde	1199 Feb 02 j 07:14	25°♑17'37	
	1193 May 09 j 23:15	0°♍		opposition	1199 Apr 04 j 00:52	20°♑25'19	1°34'24
	1193 Aug 13 j 09:25	15°♍		min. Earth dist.	1199 Apr 05 j 06:13	20°♑15'56	4.42601 AU
retrograde	1193 Aug 28 j 01:27	15°♍21'24		direct	1199 Jun 05 j 18:21	15°♑23'48	
	1193 Sep 11 j 15:49	15°♍♍			1199 Sep 25 j 20:48	0°♎	
min. Earth dist.	1193 Oct 25 j 06:53	10°♍27'46	4.01996 AU	evening set	1199 Oct 10 j 01:07	3°♎03'42	
opposition	1193 Oct 26 j 16:12	10°♍16'24	-1°-19'-29	max. Earth dist.	1199 Oct 20 j 19:04	5°♎25'36	6.39130 AU
direct	1193 Dec 23 j 17:34	5°♍19'34		conjunction	1199 Oct 22 j 18:12	5°♎51'38	0°57'02
	1194 Mar 16 j 02:21	15°♍		minimum elong	1199 Oct 22 j 18:14	5°♎51'39	0°57'01
evening set	1194 Apr 28 j 20:39	24°♍38'02		morning rise	1199 Nov 04 j 09:13	8°♎38'43	
					1199 Dec 04 j 07:21	15°♎	
conjunction	1194 May 12 j 14:07	27°♍49'42	0°-38'-9	retrograde	1200 Mar 05 j 01:09	25°♎53'38	
minimum elong	1194 May 12 j 14:10	27°♍49'44	0°38'11	opposition	1200 May 04 j 22:58	21°♎01'47	1°05'54
max. Earth dist.	1194 May 14 j 20:13	28°♍21'13	6.07371 AU	min. Earth dist.	1200 May 06 j 10:53	20°♎50'21	4.34325 AU
	1194 May 21 j 22:04	0°♎		direct	1200 Jul 06 j 08:46	16°♎02'19	
morning rise	1194 May 26 j 09:05	1°♎01'57			1200 Oct 21 j 15:51	0°♏	
retrograde	1194 Oct 01 j 22:56	20°♎25'40		evening set	1200 Nov 09 j 00:22	4°♏02'53	
min. Earth dist.	1194 Nov 29 j 05:12	15°♎31'51	4.13856 AU	max. Earth dist.	1200 Nov 19 j 16:16	6°♏27'29	6.28276 AU
opposition	1194 Nov 30 j 12:03	15°♎21'22	0°-29'-13				
direct	1195 Jan 28 j 10:19	10°♎21'33		conjunction	1200 Nov 21 j 15:55	6°♏54'30	0°29'20
evening set	1195 Jun 04 j 02:31	29°♎05'52		minimum elong	1200 Nov 21 j 15:57	6°♏54'31	0°29'20
	1195 Jun 08 j 02:50	0°♏		morning rise	1200 Dec 04 j 06:37	9°♏45'54	
conjunction	1195 Jun 17 j 20:18	2°♏11'44	0°00'-8	retrograde	1201 Apr 07 j 16:11	27°♏50'52	
minimum elong	1195 Jun 17 j 20:19	2°♏11'45	0°00'09	opposition	1201 Jun 07 j 14:42	22°♏57'45	0°16'25
behind sun begin	1195 Jun 17 j 12:03	2°♏07'06		min. Earth dist.	1201 Jun 08 j 20:37	22°♏48'11	4.21502 AU
behind sun end	1195 Jun 18 j 04:35	2°♏16'23		direct	1201 Aug 07 j 23:10	18°♏00'48	
max. Earth dist.	1195 Jun 19 j 11:40	2°♏33'57	6.20819 AU	desc. node	1201 Sep 29 j 09:20	22°♏03'02	
asc. node	1195 Jun 19 j 06:20	2°♏30'57			1201 Nov 11 j 20:49	0°♐	
morning rise	1195 Jun 01 j 13:59	5°♏17'13		evening set	1201 Dec 11 j 04:55	6°♐34'09	
retrograde	1195 Nov 03 j 13:53	23°♏33'44		conjunction	1201 Dec 23 j 22:00	9°♐31'59	0°-8'-31
opposition	1196 Jan 02 j 07:00	18°♏32'21	0°27'48	minimum elong	1201 Dec 23 j 21:59	9°♐31'59	0°08'32
min. Earth dist.	1196 Jan 01 j 12:51	18°♏38'27	4.27551 AU	behind sun begin	1201 Dec 23 j 14:58	9°♐27'54	
direct	1196 Mar 02 j 13:08	13°♏30'14		behind sun end	1201 Dec 24 j 05:01	9°♐36'04	

max. Earth dist.	1201 Dec 22 j 13:22	9° $\overline{3}$ 12'55	6.14580 AU	max. Earth dist.	1207 Jun 24 j 08:31	7° $\overline{5}$ 20'06	6.22918 AU
morning rise	1202 Jan 05 j 15:37	12° $\overline{3}$ 30'24		morning rise	1207 Jul 06 j 11:13	10° $\overline{5}$ 02'55	
	1202 Apr 10 j 12:19	0° \approx		retrograde	1207 Nov 08 j 00:06	28° $\overline{5}$ 09'57	
retrograde	1202 May 13 j 15:30	1° \approx 40'55		opposition	1208 Jan 06 j 17:45	23° $\overline{5}$ 09'07	0°35'06
	1202 Jun 15 j 19:57	30° \overline{R} $\overline{3}$		min. Earth dist.	1208 Jan 06 j 01:22	23° $\overline{5}$ 14'36	4.29632 AU
opposition	1202 Jul 13 j 06:42	26° $\overline{3}$ 45'09	0°-41'-41	direct	1208 Mar 07 j 04:34	18° $\overline{5}$ 06'53	
min. Earth dist.	1202 Jul 13 j 22:02	26° $\overline{3}$ 40'10	4.07931 AU		1208 Jun 12 j 20:16	0° $\overline{8}$	
direct	1202 Sep 11 j 06:12	21° $\overline{3}$ 50'33		evening set	1208 Jul 12 j 03:52	6° $\overline{8}$ 11'23	
	1202 Nov 25 j 10:35	0° \approx					
evening set	1203 Jan 14 j 06:53	11° \approx 00'10		conjunction	1208 Jul 25 j 15:35	9° $\overline{8}$ 08'25	0°40'36
				minimum elong	1208 Jul 25 j 15:33	9° $\overline{8}$ 08'24	0°40'37
conjunction	1203 Jan 27 j 04:17	14° \approx 05'08	0°-45'00	max. Earth dist.	1208 Jul 26 j 02:25	9° $\overline{8}$ 14'21	6.35607 AU
minimum elong	1203 Jan 27 j 04:15	14° \approx 05'06	0°45'02	morning rise	1208 Aug 08 j 01:16	12° $\overline{8}$ 04'14	
max. Earth dist.	1203 Jan 26 j 21:15	14° \approx 00'55	6.02362 AU		1208 Aug 21 j 16:16	15° $\overline{8}$	
	1203 Jan 30 j 23:52	15° \approx		retrograde	1208 Dec 07 j 18:22	29° $\overline{8}$ 19'19	
morning rise	1203 Feb 09 j 03:55	17° \approx 11'26		opposition	1209 Feb 05 j 20:01	24° $\overline{8}$ 22'14	1°17'55
	1203 Apr 09 j 03:02	0° \overline{H}		min. Earth dist.	1209 Feb 05 j 21:26	24° $\overline{8}$ 21'46	4.40280 AU
retrograde	1203 Jun 20 j 06:18	7° \overline{H} 22'32		direct	1209 Apr 08 j 12:32	19° $\overline{8}$ 19'08	
opposition	1203 Aug 19 j 12:32	2° \overline{H} 22'59	-1°-27'-46		1209 Jul 10 j 13:14	0° \overline{H}	
min. Earth dist.	1203 Aug 19 j 05:08	2° \overline{H} 25'26	3.98325 AU	evening set	1209 Aug 13 j 11:23	7° \overline{H} 00'14	
	1203 Sep 07 j 07:59	30° \overline{R} \approx					
direct	1203 Oct 17 j 03:04	27° \approx 29'29		conjunction	1209 Aug 26 j 15:26	9° \overline{H} 50'56	1°02'58
	1203 Nov 25 j 08:09	0° \overline{H}		minimum elong	1209 Aug 26 j 15:24	9° \overline{H} 50'55	1°02'57
evening set	1204 Feb 19 j 08:53	17° \overline{H} 04'52		max. Earth dist.	1209 Aug 26 j 00:02	9° \overline{H} 42'36	6.43381 AU
				morning rise	1209 Sep 08 j 16:25	12° \overline{H} 40'09	
conjunction	1204 Mar 03 j 13:19	20° \overline{H} 15'43	-1°-5'-52	retrograde	1210 Jan 06 j 22:02	29° \overline{H} 28'51	
minimum elong	1204 Mar 03 j 13:18	20° \overline{H} 15'43	1°05'52	opposition	1210 Mar 08 j 08:42	24° \overline{H} 34'55	1°38'01
max. Earth dist.	1204 Mar 04 j 14:17	20° \overline{H} 30'48	5.96221 AU	min. Earth dist.	1210 Mar 09 j 03:15	24° \overline{H} 28'56	4.44817 AU
morning rise	1204 Mar 16 j 20:52	23° \overline{H} 28'17		direct	1210 May 09 j 21:06	19° \overline{H} 32'15	
	1204 Apr 13 j 21:09	0° \overline{Y}			1210 Aug 10 j 05:28	0° \overline{L}	
retrograde	1204 Jul 27 j 07:57	14° \overline{Y} 06'18		evening set	1210 Sep 13 j 13:06	7° \overline{L} 05'12	
min. Earth dist.	1204 Sep 24 j 01:42	9° \overline{Y} 11'43	3.96475 AU	max. Earth dist.	1210 Sep 24 j 19:46	9° \overline{L} 31'54	6.44253 AU
opposition	1204 Sep 25 j 03:20	9° \overline{Y} 03'03	-1°-40'-33				
direct	1204 Nov 22 j 01:36	4° \overline{Y} 08'31		conjunction	1210 Sep 26 j 10:03	9° \overline{L} 52'43	1°07'46
evening set	1205 Mar 27 j 17:31	23° \overline{Y} 46'07		minimum elong	1210 Sep 26 j 10:03	9° \overline{L} 52'43	1°07'46
				morning rise	1210 Oct 09 j 04:24	12° \overline{L} 39'01	
conjunction	1205 Apr 10 j 06:05	26° \overline{Y} 59'32	-1°-1'-11	retrograde	1211 Feb 06 j 12:38	29° \overline{L} 29'34	
minimum elong	1205 Apr 10 j 06:07	26° \overline{Y} 59'33	1°01'11	opposition	1211 Apr 08 j 06:11	24° \overline{L} 37'26	1°31'56
max. Earth dist.	1205 Apr 12 j 07:38	27° \overline{Y} 29'06	5.98767 AU	min. Earth dist.	1211 Apr 09 j 14:21	24° \overline{L} 27'10	4.42061 AU
	1205 Apr 22 j 21:16	0° $\overline{8}$		direct	1211 Jun 10 j 00:39	19° \overline{L} 36'04	
morning rise	1205 Apr 23 j 21:22	0° $\overline{8}$ 14'16			1211 Sep 09 j 09:53	0° \overline{M}	
	1205 Jul 03 j 07:54	15° $\overline{8}$		evening set	1211 Oct 14 j 03:57	7° \overline{M} 17'21	
retrograde	1205 Sep 02 j 02:39	20° $\overline{8}$ 29'00		max. Earth dist.	1211 Oct 24 j 19:59	9° \overline{M} 38'35	6.38015 AU
min. Earth dist.	1205 Oct 30 j 06:03	15° $\overline{8}$ 35'37	4.03197 AU				
opposition	1205 Oct 31 j 16:06	15° $\overline{8}$ 24'01	-1°-13'-41	conjunction	1211 Oct 26 j 20:44	10° \overline{M} 05'35	0°54'07
	1205 Nov 03 j 14:40	15° \overline{R} $\overline{8}$		minimum elong	1211 Oct 26 j 20:46	10° \overline{M} 05'36	0°54'08
direct	1205 Dec 28 j 18:30	10° $\overline{8}$ 26'53		morning rise	1211 Nov 08 j 11:26	12° \overline{M} 53'00	
	1206 Feb 20 j 20:47	15° $\overline{8}$			1211 Nov 18 j 03:44	15° \overline{M}	
evening set	1206 May 04 j 00:49	29° $\overline{8}$ 41'46			1212 Feb 26 j 12:03	0° \overline{J}	
	1206 May 05 j 08:24	0° \overline{II}		retrograde	1212 Mar 09 j 09:49	0° \overline{J} 13'19	
conjunction	1206 May 17 j 18:32	2° \overline{II} 52'53	0°-33'-15		1212 Mar 21 j 08:26	30° \overline{R} \overline{M}	
minimum elong	1206 May 17 j 18:35	2° \overline{II} 52'54	0°33'16	opposition	1212 May 09 j 08:38	25° \overline{M} 21'21	1°00'15
max. Earth dist.	1206 May 19 j 23:03	3° \overline{II} 23'20	6.09015 AU	min. Earth dist.	1212 May 10 j 20:12	25° \overline{M} 10'02	4.32691 AU
morning rise	1206 May 31 j 13:52	6° \overline{II} 04'29		direct	1212 Jul 10 j 14:39	20° \overline{M} 22'09	
retrograde	1206 Oct 06 j 15:18	25° \overline{II} 19'04			1212 Oct 04 j 16:28	0° \overline{J}	
min. Earth dist.	1206 Dec 03 j 22:59	20° \overline{II} 25'19	4.15789 AU	evening set	1212 Nov 13 j 06:20	8° \overline{J} 27'12	
opposition	1206 Dec 05 j 05:10	20° \overline{II} 15'03	0°-21'-8	max. Earth dist.	1212 Nov 23 j 23:05	10° \overline{J} 52'55	6.26246 AU
direct	1207 Feb 02 j 07:38	15° \overline{II} 14'54		conjunction	1212 Nov 25 j 21:55	11° \overline{J} 19'37	0°24'37
asc. node	1207 Apr 29 j 06:36	25° \overline{II} 12'43		minimum elong	1212 Nov 25 j 21:57	11° \overline{J} 19'38	0°24'38
	1207 May 22 j 08:16	0° $\overline{5}$		morning rise	1212 Dec 08 j 12:50	14° \overline{J} 11'57	
evening set	1207 Jun 09 j 00:57	3° $\overline{5}$ 53'53			1213 Mar 03 j 03:17	0° $\overline{3}$	
				retrograde	1213 Apr 12 j 11:21	2° $\overline{3}$ 26'18	
conjunction	1207 Jun 22 j 18:27	6° $\overline{5}$ 58'42	0°05'24		1213 May 23 j 05:26	30° \overline{R} \overline{J}	
minimum elong	1207 Jun 22 j 18:27	6° $\overline{5}$ 58'42	0°05'23	opposition	1213 Jun 12 j 07:40	27° \overline{J} 32'56	0°08'42
behind sun begin	1207 Jun 22 j 10:25	6° $\overline{5}$ 54'13		min. Earth dist.	1213 Jun 13 j 13:41	27° \overline{J} 23'19	4.19190 AU
behind sun end	1207 Jun 23 j 02:29	7° $\overline{5}$ 03'12		desc. node	1213 Aug 11 j 00:31	22° \overline{J} 36'29	

direct	1213 Aug 12 j 12:24	22° ♂ 36'16		evening set	1219 Jun 13 j 23:44	8° ♂ 42'05	
	1213 Oct 24 j 00:50	0° ♂					
evening set	1213 Dec 15 j 17:27	11° ♂ 16'21		conjunction	1219 Jun 27 j 16:34	11° ♂ 45'41	0°10'52
max. Earth dist.	1213 Dec 27 j 03:49	13° ♂ 57'04	6.12188 AU	minimum elong	1219 Jun 27 j 16:34	11° ♂ 45'41	0°10'52
				behind sun begin	1219 Jun 27 j 10:20	11° ♂ 42'13	
conjunction	1213 Dec 28 j 11:03	14° ♂ 15'25	0°-13'-50	behind sun end	1219 Jun 27 j 22:48	11° ♂ 49'09	
minimum elong	1213 Dec 28 j 11:02	14° ♂ 15'24	0°13'50	max. Earth dist.	1219 Jun 29 j 03:09	12° ♂ 05'01	6.25083 AU
behind sun begin	1213 Dec 28 j 06:40	14° ♂ 12'51		morning rise	1219 Jul 11 j 08:37	14° ♂ 48'36	
behind sun end	1213 Dec 28 j 15:24	14° ♂ 17'58			1219 Sep 30 j 21:32	0° ♂	
morning rise	1214 Jan 10 j 05:31	17° ♂ 15'12		retrograde	1219 Nov 12 j 08:56	2° ♂ 46'13	
	1214 Mar 11 j 10:03	0° ♂			1219 Dec 24 j 19:50	30° ♂	
retrograde	1214 May 18 j 17:02	6° ♂ 37'00		opposition	1220 Jan 11 j 04:41	27° ♂ 45'51	0°42'16
opposition	1214 Jul 18 j 07:40	1° ♂ 40'46	0°-49'-13	min. Earth dist.	1220 Jan 10 j 14:15	27° ♂ 50'40	4.31617 AU
min. Earth dist.	1214 Jul 18 j 19:28	1° ♂ 36'55	4.05677 AU	direct	1220 Mar 11 j 19:29	22° ♂ 43'22	
	1214 Jul 31 j 11:39	30° ♂			1220 May 24 j 09:32	0° ♂	
direct	1214 Sep 16 j 00:45	26° ♂ 46'24		evening set	1220 Jul 16 j 19:22	10° ♂ 43'02	
	1214 Oct 31 j 10:02	0° ♂					
	1215 Jan 14 j 18:27	15° ♂		conjunction	1220 Jul 30 j 06:06	13° ♂ 38'57	0°44'41
evening set	1215 Jan 19 j 04:11	16° ♂ 02'55		minimum elong	1220 Jul 30 j 06:04	13° ♂ 38'56	0°44'41
				max. Earth dist.	1220 Jul 30 j 13:27	13° ♂ 42'58	6.37264 AU
conjunction	1215 Feb 01 j 02:32	19° ♂ 09'08	0°-49'-5		1220 Aug 05 j 10:28	15° ♂	
minimum elong	1215 Feb 01 j 02:30	19° ♂ 09'07	0°49'06	morning rise	1220 Aug 12 j 14:26	16° ♂ 33'33	
max. Earth dist.	1215 Feb 01 j 00:14	19° ♂ 07'45	6.00454 AU		1220 Oct 23 j 00:01	0° ♂	
morning rise	1215 Feb 14 j 03:14	22° ♂ 16'47		retrograde	1220 Dec 12 j 00:40	3° ♂ 42'40	
	1215 Mar 19 j 16:14	0° ♂			1221 Jan 31 j 15:10	30° ♂	
retrograde	1215 Jun 25 j 15:56	12° ♂ 36'45		opposition	1221 Feb 10 j 03:13	28° ♂ 46'07	1°22'13
opposition	1215 Aug 24 j 19:15	7° ♂ 36'36	-1°-31'-52	min. Earth dist.	1221 Feb 10 j 07:27	28° ♂ 44'44	4.41501 AU
min. Earth dist.	1215 Aug 24 j 09:14	7° ♂ 39'56	3.96974 AU	direct	1221 Apr 12 j 23:40	23° ♂ 43'04	
direct	1215 Oct 22 j 06:47	2° ♂ 43'03			1221 Jun 20 j 17:17	0° ♂	
evening set	1216 Feb 24 j 14:03	22° ♂ 22'25		evening set	1221 Aug 17 j 21:09	11° ♂ 21'29	
conjunction	1216 Mar 08 j 19:49	25° ♂ 34'10	-1°-6'-46	conjunction	1221 Aug 31 j 00:00	14° ♂ 11'28	1°04'44
minimum elong	1216 Mar 08 j 19:49	25° ♂ 34'10	1°06'47	minimum elong	1221 Aug 30 j 23:58	14° ♂ 11'28	1°04'44
max. Earth dist.	1216 Mar 10 j 02:34	25° ♂ 52'46	5.95561 AU	max. Earth dist.	1221 Aug 30 j 03:37	14° ♂ 00'27	6.44059 AU
morning rise	1216 Mar 22 j 04:37	28° ♂ 47'36		morning rise	1221 Sep 13 j 00:03	17° ♂ 00'02	
	1216 Mar 27 j 05:47	0° ♂			1221 Nov 21 j 08:57	0° ♂	
retrograde	1216 Aug 01 j 16:19	19° ♂ 26'57		retrograde	1222 Jan 11 j 04:07	3° ♂ 47'04	
min. Earth dist.	1216 Sep 29 j 05:51	14° ♂ 32'47	3.96606 AU		1222 Mar 03 j 23:11	30° ♂	
opposition	1216 Sep 30 j 10:01	14° ♂ 23'15	-1°-38'-56	opposition	1222 Mar 12 j 15:32	28° ♂ 53'28	1°38'45
direct	1216 Nov 27 j 06:36	9° ♂ 28'27		min. Earth dist.	1222 Mar 13 j 12:48	28° ♂ 46'37	4.44935 AU
evening set	1217 Apr 02 j 01:57	29° ♂ 05'04		direct	1222 May 14 j 05:42	23° ♂ 50'53	
	1217 Apr 05 j 22:36	0° ♂			1222 Jul 21 j 12:07	0° ♂	
				evening set	1222 Sep 17 j 19:51	11° ♂ 23'55	
conjunction	1217 Apr 15 j 15:24	2° ♂ 18'30	0°-58'-20	max. Earth dist.	1222 Sep 29 j 00:40	13° ♂ 49'47	6.43798 AU
minimum elong	1217 Apr 15 j 15:26	2° ♂ 18'32	0°58'21				
max. Earth dist.	1217 Apr 17 j 18:23	2° ♂ 48'50	5.99643 AU	conjunction	1222 Sep 30 j 16:12	14° ♂ 11'20	1°06'55
morning rise	1217 Apr 29 j 07:47	5° ♂ 33'15		minimum elong	1222 Sep 30 j 16:13	14° ♂ 11'21	1°06'54
	1217 Jun 10 j 12:22	15° ♂		morning rise	1222 Oct 13 j 09:41	16° ♂ 57'31	
retrograde	1217 Sep 07 j 03:19	25° ♂ 41'17			1222 Dec 21 j 12:19	0° ♂	
min. Earth dist.	1217 Nov 04 j 06:19	20° ♂ 48'06	4.04686 AU	retrograde	1223 Feb 10 j 20:31	3° ♂ 50'41	
opposition	1217 Nov 05 j 17:26	20° ♂ 36'07	-1°-7'-10		1223 Apr 04 j 13:57	30° ♂	
direct	1218 Jan 02 j 22:31	15° ♂ 38'27		opposition	1223 Apr 12 j 15:38	28° ♂ 58'43	1°28'56
	1218 Apr 17 j 23:16	0° ♂		min. Earth dist.	1223 Apr 14 j 00:24	28° ♂ 48'16	4.41069 AU
evening set	1218 May 09 j 06:06	4° ♂ 48'20		direct	1223 Jun 14 j 08:27	23° ♂ 57'40	
					1223 Aug 20 j 12:42	0° ♂	
conjunction	1218 May 23 j 00:17	7° ♂ 58'43	0°-28'-1	evening set	1223 Oct 18 j 11:20	11° ♂ 41'41	
minimum elong	1218 May 23 j 00:19	7° ♂ 58'44	0°28'01	max. Earth dist.	1223 Oct 29 j 01:23	14° ♂ 02'23	6.36557 AU
max. Earth dist.	1218 May 25 j 05:04	8° ♂ 29'12	6.10971 AU				
morning rise	1218 Jun 05 j 19:28	11° ♂ 09'21		conjunction	1223 Oct 31 j 03:39	14° ♂ 30'20	0°50'48
	1218 Sep 29 j 16:24	0° ♂		minimum elong	1223 Oct 31 j 03:41	14° ♂ 30'21	0°50'49
retrograde	1218 Oct 11 j 09:24	0° ♂ 13'32			1223 Nov 02 j 09:00	15° ♂	
	1218 Oct 22 j 23:22	30° ♂		morning rise	1223 Nov 12 j 18:18	17° ♂ 18'19	
opposition	1218 Dec 09 j 22:59	25° ♂ 09'48	0°-12'-50		1224 Jan 16 j 12:31	0° ♂	
min. Earth dist.	1218 Dec 08 j 18:35	25° ♂ 19'26	4.17952 AU	retrograde	1224 Mar 14 j 02:38	4° ♂ 45'18	
direct	1219 Feb 07 j 06:25	20° ♂ 09'14			1224 May 13 j 02:59	30° ♂	
asc. node	1219 Mar 08 j 04:33	21° ♂ 29'10		opposition	1224 May 14 j 00:02	29° ♂ 53'17	0°53'58
	1219 May 03 j 22:00	0° ♂		min. Earth dist.	1224 May 15 j 12:23	29° ♂ 41'42	4.30837 AU

direct	1224 Jul 15 j 03:51	24° \mathbb{M} 54'25		conjunction	1230 May 28 j 01:51	12° \mathbb{H} 55'05	0°-22'-46
	1224 Sep 13 j 09:15	0° \mathbb{X}		minimum elong	1230 May 28 j 01:52	12° \mathbb{H} 55'05	0°22'47
evening set	1224 Nov 17 j 17:17	13° \mathbb{X} 04'28		max. Earth dist.	1230 May 30 j 04:54	13° \mathbb{H} 24'24	6.13132 AU
max. Earth dist.	1224 Nov 28 j 11:28	15° \mathbb{X} 31'41	6.24160 AU	morning rise	1230 Jun 10 j 20:58	16° \mathbb{H} 04'40	
					1230 Aug 19 j 00:12	0° \mathbb{G}	
conjunction	1224 Nov 30 j 09:08	15° \mathbb{X} 57'50	0°19'31	retrograde	1230 Oct 15 j 20:53	4° \mathbb{G} 58'16	
minimum elong	1224 Nov 30 j 09:09	15° \mathbb{X} 57'50	0°19'30	min. Earth dist.	1230 Dec 13 j 09:06	0° \mathbb{G} 04'10	4.20124 AU
morning rise	1224 Dec 13 j 00:23	18° \mathbb{X} 51'12			1230 Dec 13 j 21:23	30° \mathbb{R} \mathbb{H}	
	1225 Feb 04 j 03:57	0° \mathbb{Z}		opposition	1230 Dec 14 j 12:25	29° \mathbb{H} 54'55	0°-4'-46
retrograde	1225 Apr 17 j 09:59	7° \mathbb{Z} 15'15		asc. node	1231 Jan 16 j 13:26	26° \mathbb{H} 02'13	
opposition	1225 Jun 17 j 06:30	2° \mathbb{Z} 21'37	0°00'27	direct	1231 Feb 11 j 23:14	24° \mathbb{H} 54'00	
min. Earth dist.	1225 Jun 18 j 09:41	2° \mathbb{Z} 12'53	4.17032 AU		1231 Apr 12 j 04:34	0° \mathbb{G}	
desc. node	1225 Jun 20 j 08:03	1° \mathbb{Z} 58'01		evening set	1231 Jun 18 j 18:21	13° \mathbb{G} 21'11	
	1225 Jul 06 j 10:31	30° \mathbb{R} \mathbb{X}					
direct	1225 Aug 17 j 05:06	27° \mathbb{X} 25'25		conjunction	1231 Jul 02 j 10:32	16° \mathbb{G} 23'39	0°16'05
	1225 Sep 27 j 08:09	0° \mathbb{Z}		minimum elong	1231 Jul 02 j 10:30	16° \mathbb{G} 23'38	0°16'06
evening set	1225 Dec 20 j 11:12	16° \mathbb{Z} 11'30		max. Earth dist.	1231 Jul 03 j 16:41	16° \mathbb{G} 40'27	6.27094 AU
max. Earth dist.	1226 Jan 01 j 01:52	18° \mathbb{Z} 55'29	6.10161 AU	morning rise	1231 Jul 16 j 01:39	19° \mathbb{G} 25'19	
					1231 Sep 05 j 19:28	0° \mathbb{Q}	
conjunction	1226 Jan 02 j 05:16	19° \mathbb{Z} 11'39	0°-19'-21	retrograde	1231 Nov 16 j 16:46	7° \mathbb{Q} 14'42	
minimum elong	1226 Jan 02 j 05:14	19° \mathbb{Z} 11'39	0°19'22	opposition	1232 Jan 15 j 12:32	2° \mathbb{Q} 14'53	0°48'56
morning rise	1226 Jan 15 j 00:28	22° \mathbb{Z} 12'38		min. Earth dist.	1232 Jan 15 j 01:39	2° \mathbb{Q} 18'30	4.33307 AU
	1226 Feb 18 j 13:28	0° \mathbb{W}			1232 Feb 02 j 01:11	30° \mathbb{R} \mathbb{G}	
retrograde	1226 May 24 j 01:07	11° \mathbb{W} 44'28		direct	1232 Mar 16 j 08:48	27° \mathbb{G} 12'14	
opposition	1226 Jul 23 j 13:26	6° \mathbb{W} 47'46	0°-56'-45		1232 Apr 29 j 01:37	0° \mathbb{Q}	
min. Earth dist.	1226 Jul 23 j 22:31	6° \mathbb{W} 44'48	4.03982 AU		1232 Jul 20 j 16:26	15° \mathbb{Q}	
direct	1226 Sep 21 j 02:40	1° \mathbb{W} 53'41		evening set	1232 Jul 21 j 07:29	15° \mathbb{Q} 08'08	
	1226 Dec 28 j 09:08	15° \mathbb{W}					
evening set	1227 Jan 24 j 05:26	21° \mathbb{W} 14'52		conjunction	1232 Aug 03 j 17:11	18° \mathbb{Q} 03'08	0°48'24
				minimum elong	1232 Aug 03 j 17:09	18° \mathbb{Q} 03'07	0°48'24
conjunction	1227 Feb 06 j 04:46	24° \mathbb{W} 22'03	0°-52'-57	max. Earth dist.	1232 Aug 03 j 20:11	18° \mathbb{Q} 04'46	6.38495 AU
minimum elong	1227 Feb 06 j 04:43	24° \mathbb{W} 22'01	0°52'58	morning rise	1232 Aug 17 j 00:24	20° \mathbb{Q} 56'47	
max. Earth dist.	1227 Feb 06 j 08:04	24° \mathbb{W} 24'02	5.99275 AU		1232 Sep 30 j 12:40	0° \mathbb{P}	
morning rise	1227 Feb 19 j 06:29	27° \mathbb{W} 30'41		retrograde	1232 Dec 16 j 03:49	8° \mathbb{P} 01'39	
	1227 Mar 01 j 18:02	0° \mathbb{H}		opposition	1233 Feb 14 j 08:26	3° \mathbb{P} 05'32	1°26'00
retrograde	1227 Jul 01 j 02:12	17° \mathbb{H} 56'05		min. Earth dist.	1233 Feb 14 j 14:57	3° \mathbb{P} 03'24	4.42232 AU
opposition	1227 Aug 30 j 03:40	12° \mathbb{H} 55'25	-1°-35'-18		1233 Mar 11 j 21:58	30° \mathbb{R} \mathbb{Q}	
min. Earth dist.	1227 Aug 29 j 14:09	12° \mathbb{H} 59'55	3.96491 AU	direct	1233 Apr 17 j 07:17	28° \mathbb{Q} 02'27	
direct	1227 Oct 27 j 11:01	8° \mathbb{H} 01'55			1233 May 24 j 03:10	0° \mathbb{P}	
evening set	1228 Feb 29 j 20:22	27° \mathbb{H} 41'58		evening set	1233 Aug 22 j 05:11	15° \mathbb{P} 39'50	
	1228 Mar 10 j 09:31	0° \mathbb{Y}		max. Earth dist.	1233 Sep 03 j 08:02	18° \mathbb{P} 16'52	6.44238 AU
conjunction	1228 Mar 14 j 03:04	0° \mathbb{Y} 54'05	-1°-7'-11	conjunction	1233 Sep 04 j 07:06	18° \mathbb{P} 29'21	1°06'07
minimum elong	1228 Mar 14 j 03:04	0° \mathbb{Y} 54'05	1°07'12	minimum elong	1233 Sep 04 j 07:04	18° \mathbb{P} 29'21	1°06'08
max. Earth dist.	1228 Mar 15 j 12:50	1° \mathbb{Y} 14'28	5.95792 AU	morning rise	1233 Sep 17 j 06:02	21° \mathbb{P} 17'26	
morning rise	1228 Mar 27 j 13:07	4° \mathbb{Y} 07'54			1233 Oct 30 j 05:06	0° \mathbb{L}	
retrograde	1228 Aug 06 j 20:59	24° \mathbb{Y} 44'51		retrograde	1234 Jan 15 j 09:28	8° \mathbb{L} 04'22	
min. Earth dist.	1228 Oct 04 j 08:39	19° \mathbb{Y} 51'07	3.97536 AU	opposition	1234 Mar 16 j 21:43	3° \mathbb{L} 11'07	1°38'57
opposition	1228 Oct 05 j 15:13	19° \mathbb{Y} 40'44	-1°-36'-32	min. Earth dist.	1234 Mar 17 j 21:11	3° \mathbb{L} 03'34	4.44575 AU
direct	1228 Dec 02 j 11:59	14° \mathbb{Y} 45'34			1234 Apr 12 j 18:59	30° \mathbb{R} \mathbb{P}	
	1229 Mar 19 j 19:12	0° \mathbb{B}		direct	1234 May 18 j 13:20	28° \mathbb{P} 08'44	
evening set	1229 Apr 07 j 08:01	4° \mathbb{B} 18'28			1234 Jun 23 j 12:46	0° \mathbb{L}	
				evening set	1234 Sep 22 j 02:32	15° \mathbb{L} 43'12	
conjunction	1229 Apr 20 j 22:27	7° \mathbb{B} 31'36	0°-55'-8	max. Earth dist.	1234 Oct 03 j 03:03	18° \mathbb{L} 07'10	6.42914 AU
minimum elong	1229 Apr 20 j 22:30	7° \mathbb{B} 31'38	0°55'09				
max. Earth dist.	1229 Apr 23 j 04:03	8° \mathbb{B} 03'22	6.01175 AU	conjunction	1234 Oct 04 j 22:06	18° \mathbb{L} 30'41	1°05'42
morning rise	1229 May 04 j 15:19	10° \mathbb{B} 45'52		minimum elong	1234 Oct 04 j 22:07	18° \mathbb{L} 30'41	1°05'42
	1229 May 22 j 23:18	15° \mathbb{B}		morning rise	1234 Oct 17 j 15:12	21° \mathbb{L} 17'01	
	1229 Aug 21 j 14:57	0° \mathbb{H}			1234 Nov 29 j 04:43	0° \mathbb{M}	
retrograde	1229 Sep 12 j 02:16	0° \mathbb{H} 45'03		retrograde	1235 Feb 15 j 07:30	8° \mathbb{M} 14'09	
	1229 Oct 03 j 07:02	30° \mathbb{R} \mathbb{B}		opposition	1235 Apr 17 j 02:13	3° \mathbb{M} 22'14	1°25'25
min. Earth dist.	1229 Nov 09 j 05:09	25° \mathbb{B} 51'33	4.06627 AU	min. Earth dist.	1235 Apr 18 j 12:14	3° \mathbb{M} 11'22	4.39727 AU
opposition	1229 Nov 10 j 15:12	25° \mathbb{B} 39'56	-1°00'-23		1235 May 16 j 03:58	30° \mathbb{R} \mathbb{L}	
direct	1230 Jan 08 j 00:10	20° \mathbb{B} 41'50		direct	1235 Jun 18 j 18:16	28° \mathbb{L} 21'25	
	1230 Mar 30 j 04:58	0° \mathbb{H}			1235 Jul 22 j 09:17	0° \mathbb{M}	
evening set	1230 May 14 j 07:37	9° \mathbb{H} 45'38			1235 Oct 17 j 14:02	15° \mathbb{M}	
				evening set	1235 Oct 22 j 19:22	16° \mathbb{M} 09'01	

max. Earth dist.	1235 Nov 02 j 10:31	18° \mathbb{M} 30'51	6.34874 AU	max. Earth dist.	1241 Apr 28 j 09:22	13° \mathbb{B} 09'38	6.02622 AU
conjunction	1235 Nov 04 j 11:38	18° \mathbb{M} 58'16	0°47'10	morning rise	1241 May 06 j 04:50	15° \mathbb{B}	
minimum elong	1235 Nov 04 j 11:40	18° \mathbb{M} 58'18	0°47'10		1241 May 09 j 20:58	15° \mathbb{B} 51'38	
morning rise	1235 Nov 17 j 02:04	21° \mathbb{M} 46'53		retrograde	1241 Jul 16 j 16:02	0° \mathbb{H}	
	1235 Dec 26 j 00:17	0° \mathbb{A}		min. Earth dist.	1241 Sep 16 j 20:36	5° \mathbb{H} 42'27	
retrograde	1236 Mar 18 j 18:31	9° \mathbb{A} 21'08		opposition	1241 Nov 14 j 00:06	0° \mathbb{H} 49'11	4.08365 AU
opposition	1236 May 18 j 16:58	4° \mathbb{A} 28'59	0°47'16		1241 Nov 15 j 10:27	0° \mathbb{H} 37'28	0°-53'-19
min. Earth dist.	1236 May 20 j 03:58	4° \mathbb{A} 17'50	4.28924 AU	direct	1241 Nov 20 j 00:44	30° \mathbb{R} \mathbb{B}	
	1236 Jul 01 j 18:55	30° \mathbb{R} \mathbb{M}			1242 Jan 12 j 21:16	25° \mathbb{B} 38'58	
direct	1236 Jul 19 j 16:38	29° \mathbb{M} 30'32		evening set	1242 Mar 07 j 03:01	0° \mathbb{H}	
	1236 Aug 06 j 15:38	0° \mathbb{A}			1242 May 19 j 07:33	14° \mathbb{H} 37'53	
evening set	1236 Nov 22 j 05:55	17° \mathbb{A} 45'27		conjunction	1242 Jun 02 j 01:50	17° \mathbb{H} 46'31	0°-17'-26
max. Earth dist.	1236 Dec 03 j 01:51	20° \mathbb{A} 14'23	6.22180 AU	minimum elong	1242 Jun 02 j 01:51	17° \mathbb{H} 46'32	0°17'27
conjunction	1236 Dec 04 j 21:46	20° \mathbb{A} 39'39	0°14'14	max. Earth dist.	1242 Jun 04 j 01:42	18° \mathbb{H} 13'54	6.15018 AU
minimum elong	1236 Dec 04 j 21:47	20° \mathbb{A} 39'40	0°14'14	morning rise	1242 Jun 15 j 20:46	20° \mathbb{H} 55'11	
behind sun begin	1236 Dec 04 j 17:47	20° \mathbb{A} 37'22			1242 Jul 28 j 03:40	0° \mathbb{B}	
behind sun end	1236 Dec 05 j 01:47	20° \mathbb{A} 41'57		retrograde	1242 Oct 20 j 10:01	9° \mathbb{B} 39'40	
morning rise	1236 Dec 17 j 13:29	23° \mathbb{A} 34'01		asc. node	1242 Nov 26 j 22:35	7° \mathbb{B} 25'28	
	1237 Jan 15 j 13:59	0° \mathbb{B}		min. Earth dist.	1242 Dec 18 j 00:46	4° \mathbb{B} 45'00	4.21960 AU
retrograde	1237 Apr 22 j 11:21	12° \mathbb{B} 07'11		opposition	1242 Dec 19 j 01:08	4° \mathbb{B} 36'45	0°03'12
desc. node	1237 Apr 29 j 15:12	12° \mathbb{B} 02'18			1243 Jan 31 j 22:33	30° \mathbb{R} \mathbb{H}	
opposition	1237 Jun 22 j 06:34	7° \mathbb{B} 13'09	0°-7'-52	direct	1243 Feb 16 j 17:12	29° \mathbb{H} 35'33	
min. Earth dist.	1237 Jun 23 j 07:52	7° \mathbb{B} 05'01	4.15121 AU	evening set	1243 Mar 04 j 14:19	0° \mathbb{B}	
direct	1237 Aug 22 j 01:48	2° \mathbb{B} 17'15			1243 Jun 23 j 12:27	17° \mathbb{B} 58'23	
evening set	1237 Dec 25 j 05:45	21° \mathbb{B} 08'11		conjunction	1243 Jul 07 j 04:05	20° \mathbb{B} 59'53	0°21'12
max. Earth dist.	1238 Jan 06 j 01:46	23° \mathbb{B} 55'51	6.08498 AU	minimum elong	1243 Jul 07 j 04:03	20° \mathbb{B} 59'52	0°21'12
conjunction	1238 Jan 07 j 00:30	24° \mathbb{B} 09'18	0°-24'-45	max. Earth dist.	1243 Jul 08 j 07:28	21° \mathbb{B} 15'05	6.28743 AU
minimum elong	1238 Jan 07 j 00:28	24° \mathbb{B} 09'17	0°24'46	morning rise	1243 Jul 20 j 18:14	24° \mathbb{B} 00'28	
morning rise	1238 Jan 19 j 20:22	27° \mathbb{B} 11'19			1243 Aug 17 j 19:19	0° \mathbb{B}	
	1238 Jan 31 j 21:46	0° \mathbb{B}		retrograde	1243 Nov 20 j 22:41	11° \mathbb{B} 42'58	
retrograde	1238 Apr 24 j 15:08	15° \mathbb{B}		opposition	1244 Jan 19 j 20:27	6° \mathbb{B} 43'43	0°55'20
	1238 May 29 j 07:39	16° \mathbb{B} 51'13		min. Earth dist.	1244 Jan 19 j 11:12	6° \mathbb{B} 46'47	4.34659 AU
opposition	1238 Jul 03 j 02:06	15° \mathbb{R} \mathbb{B}		direct	1244 Mar 20 j 19:41	1° \mathbb{B} 40'59	
min. Earth dist.	1238 Jul 28 j 18:46	11° \mathbb{B} 53'59	-1°-3'-49	evening set	1244 Jul 04 j 06:17	15° \mathbb{B}	
direct	1238 Jul 29 j 00:28	11° \mathbb{B} 52'07	4.02735 AU		1244 Jul 25 j 20:23	19° \mathbb{B} 34'21	
	1238 Sep 26 j 02:58	7° \mathbb{B} 00'07		conjunction	1244 Aug 08 j 04:59	22° \mathbb{B} 28'31	0°51'52
evening set	1238 Dec 08 j 21:17	15° \mathbb{B}		minimum elong	1244 Aug 08 j 04:57	22° \mathbb{B} 28'30	0°51'52
	1239 Jan 29 j 06:10	26° \mathbb{B} 24'14		max. Earth dist.	1244 Aug 08 j 03:24	22° \mathbb{B} 27'40	6.39450 AU
conjunction	1239 Feb 11 j 06:13	29° \mathbb{B} 32'06	0°-56'-23	morning rise	1244 Aug 21 j 11:07	25° \mathbb{B} 21'20	
minimum elong	1239 Feb 11 j 06:11	29° \mathbb{B} 32'04	0°56'23		1244 Sep 12 j 09:52	0° \mathbb{B}	
max. Earth dist.	1239 Feb 11 j 13:02	29° \mathbb{B} 36'12	5.98527 AU	retrograde	1244 Dec 20 j 10:28	12° \mathbb{B} 22'55	
	1239 Feb 13 j 04:29	0° \mathbb{H}		opposition	1245 Feb 18 j 15:02	7° \mathbb{B} 27'20	1°29'21
morning rise	1239 Feb 24 j 09:05	2° \mathbb{H} 41'32		min. Earth dist.	1245 Feb 19 j 00:46	7° \mathbb{B} 24'09	4.42749 AU
retrograde	1239 Jul 06 j 08:06	23° \mathbb{H} 10'28		direct	1245 Apr 21 j 17:39	2° \mathbb{B} 24'20	
opposition	1239 Sep 04 j 09:54	18° \mathbb{H} 09'12	-1°-37'-55	evening set	1245 Aug 26 j 14:14	20° \mathbb{B} 01'12	
min. Earth dist.	1239 Sep 03 j 17:06	18° \mathbb{H} 14'49	3.96334 AU	conjunction	1245 Sep 08 j 15:14	22° \mathbb{B} 50'21	1°07'11
direct	1239 Nov 01 j 14:51	13° \mathbb{H} 15'33		minimum elong	1245 Sep 08 j 15:13	22° \mathbb{B} 50'20	1°07'10
	1240 Feb 22 j 17:32	0° \mathbb{Y}		max. Earth dist.	1245 Sep 07 j 12:45	22° \mathbb{B} 36'00	6.44267 AU
evening set	1240 Mar 06 j 00:46	2° \mathbb{Y} 55'20		morning rise	1245 Sep 21 j 13:16	25° \mathbb{B} 38'04	
conjunction	1240 Mar 19 j 08:42	6° \mathbb{Y} 07'46	-1°-7'-4		1245 Oct 12 j 05:30	0° \mathbb{B}	
minimum elong	1240 Mar 19 j 08:42	6° \mathbb{Y} 07'46	1°07'04	retrograde	1246 Jan 19 j 16:20	12° \mathbb{B} 25'32	
max. Earth dist.	1240 Mar 20 j 23:08	6° \mathbb{Y} 30'55	5.96237 AU	opposition	1246 Mar 21 j 05:52	7° \mathbb{B} 32'34	1°38'38
morning rise	1240 Apr 01 j 19:38	9° \mathbb{Y} 21'48		min. Earth dist.	1246 Mar 22 j 06:25	7° \mathbb{B} 24'40	4.44157 AU
retrograde	1240 Aug 12 j 01:13	29° \mathbb{Y} 55'24		direct	1246 May 22 j 21:40	2° \mathbb{B} 30'25	
min. Earth dist.	1240 Oct 09 j 10:37	25° \mathbb{Y} 01'30	3.98534 AU	evening set	1246 Sep 26 j 10:20	20° \mathbb{B} 06'19	
opposition	1240 Oct 10 j 17:27	24° \mathbb{Y} 51'02	-1°-33'-26	max. Earth dist.	1246 Oct 07 j 10:20	22° \mathbb{B} 30'20	6.42099 AU
direct	1240 Dec 07 j 15:45	19° \mathbb{Y} 55'31		conjunction	1246 Oct 09 j 05:20	22° \mathbb{B} 53'53	1°04'08
	1241 Mar 01 j 09:41	0° \mathbb{B}		minimum elong	1246 Oct 09 j 05:21	22° \mathbb{B} 53'54	1°04'08
evening set	1241 Apr 12 j 12:10	9° \mathbb{B} 24'56		morning rise	1246 Oct 21 j 21:44	25° \mathbb{B} 40'20	
conjunction	1241 Apr 26 j 03:21	12° \mathbb{B} 37'46	0°-51'-34		1246 Nov 11 j 03:59	0° \mathbb{M}	
minimum elong	1241 Apr 26 j 03:23	12° \mathbb{B} 37'47	0°51'35	retrograde	1247 Feb 19 j 18:22	12° \mathbb{M} 41'14	
				opposition	1247 Apr 21 j 14:16	7° \mathbb{M} 49'27	1°21'25

min. Earth dist.	1247 Apr 23 j 00:42	7° ℓ 38'30	4.38582 AU	evening set	1253 Apr 17 j 12:33	14° 8 22'29	
direct	1247 Jun 23 j 05:17	2° ℓ 49'03			1253 Apr 20 j 04:37	15° 8	
	1247 Sep 30 j 21:52	15° ℓ					
evening set	1247 Oct 27 j 04:27	20° ℓ 39'24		conjunction	1253 May 01 j 04:26	17° 8 35'04	0°-47'-46
max. Earth dist.	1247 Nov 06 j 18:37	23° ℓ 01'15	6.33498 AU	minimum elong	1253 May 01 j 04:29	17° 8 35'06	0°47'46
				max. Earth dist.	1253 May 03 j 09:26	18° 8 06'15	6.03885 AU
conjunction	1247 Nov 08 j 20:19	23° ℓ 29'05	0°43'16	morning rise	1253 May 14 j 22:35	20° 8 48'35	
minimum elong	1247 Nov 08 j 20:21	23° ℓ 29'06	0°43'15		1253 Jun 25 j 10:47	0° II	
morning rise	1247 Nov 21 j 10:51	26° ℓ 18'16		retrograde	1253 Sep 21 j 13:13	10° II 32'09	
	1247 Dec 08 j 06:47	0° ♂		min. Earth dist.	1253 Nov 18 j 17:59	5° II 38'24	4.09809 AU
retrograde	1248 Mar 23 j 12:04	13° ♂ 58'51		opposition	1253 Nov 20 j 02:32	5° II 27'17	0°-46'-9
opposition	1248 May 23 j 10:33	9° ♂ 06'30	0°40'17	direct	1254 Jan 17 j 17:10	0° II 28'22	
min. Earth dist.	1248 May 24 j 20:27	8° ♂ 55'41	4.27402 AU	evening set	1254 May 24 j 04:44	19° II 23'36	
direct	1248 Jul 24 j 07:48	4° ♂ 08'24					
evening set	1248 Nov 26 j 18:01	22° ♂ 26'44		conjunction	1254 Jun 06 j 23:09	22° II 31'35	0°-12'-10
max. Earth dist.	1248 Dec 07 j 17:55	24° ♂ 58'27	6.20656 AU	minimum elong	1254 Jun 06 j 23:10	22° II 31'36	0°12'12
				behind sun begin	1254 Jun 06 j 17:41	22° II 28'29	
conjunction	1248 Dec 09 j 10:11	25° ♂ 21'40	0°08'56	behind sun end	1254 Jun 07 j 04:39	22° II 34'42	
minimum elong	1248 Dec 09 j 10:11	25° ♂ 21'41	0°08'56	max. Earth dist.	1254 Jun 08 j 21:59	22° II 58'16	6.16547 AU
behind sun begin	1248 Dec 09 j 03:19	25° ♂ 17'44		morning rise	1254 Jun 20 j 17:44	25° II 39'25	
behind sun end	1248 Dec 09 j 17:03	25° ♂ 25'37			1254 Jul 10 j 07:37	0° ☿	
morning rise	1248 Dec 22 j 02:06	28° ♂ 16'48		asc. node	1254 Oct 08 j 13:44	13° ☿ 50'12	
	1248 Dec 29 j 15:00	0° ♂		retrograde	1254 Oct 24 j 19:49	14° ☿ 16'08	
desc. node	1249 Mar 10 j 03:58	13° ♂ 30'34		opposition	1254 Dec 23 j 11:40	9° ☿ 13'42	0°10'54
retrograde	1249 Apr 27 j 10:28	16° ♂ 57'28		min. Earth dist.	1254 Dec 22 j 12:22	9° ☿ 21'33	4.23445 AU
opposition	1249 Jun 27 j 05:39	12° ♂ 03'06	0°-15'-59	direct	1255 Feb 21 j 06:54	4° ☿ 12'14	
min. Earth dist.	1249 Jun 28 j 04:32	11° ♂ 55'43	4.13710 AU	evening set	1255 Jun 28 j 05:04	22° ☿ 31'52	
direct	1249 Aug 26 j 20:31	7° ♂ 07'33					
evening set	1249 Dec 29 j 22:47	26° ♂ 01'35		conjunction	1255 Jul 11 j 19:50	25° ☿ 32'29	0°26'03
				minimum elong	1255 Jul 11 j 19:48	25° ☿ 32'28	0°26'02
conjunction	1250 Jan 11 j 17:49	29° ♂ 03'23	0°-29'-49	max. Earth dist.	1255 Jul 12 j 18:22	25° ☿ 44'58	6.30077 AU
minimum elong	1250 Jan 11 j 17:47	29° ♂ 03'22	0°29'51	morning rise	1255 Jul 25 j 09:14	28° ☿ 32'09	
max. Earth dist.	1250 Jan 10 j 21:44	28° ♂ 51'27	6.07312 AU		1255 Aug 01 j 02:01	0° ♂	
	1250 Jan 15 j 17:13	0° ♂			1255 Oct 29 j 07:50	15° ♂	
morning rise	1250 Jan 24 j 14:31	2° ♂ 06'13		retrograde	1255 Nov 25 j 06:18	16° ♂ 08'54	
	1250 Mar 25 j 19:47	15° ♂			1255 Dec 22 j 00:21	15° ♂	
retrograde	1250 Jun 03 j 10:15	21° ♂ 52'31		opposition	1256 Jan 24 j 03:52	11° ♂ 10'08	1°01'15
opposition	1250 Aug 02 j 21:12	16° ♂ 54'42	-1°-10'-11	min. Earth dist.	1256 Jan 23 j 21:42	11° ♂ 12'11	4.35759 AU
min. Earth dist.	1250 Aug 02 j 23:33	16° ♂ 53'56	4.01891 AU	direct	1256 Mar 25 j 07:56	6° ♂ 07'16	
	1250 Aug 17 j 20:35	15° ♂			1256 Jun 16 j 06:39	15° ♂	
direct	1250 Oct 01 j 01:20	12° ♂ 00'55		evening set	1256 Jul 30 j 08:03	23° ♂ 58'29	
	1250 Nov 13 j 07:00	15° ♂					
	1251 Jan 28 j 02:39	0° ♂		conjunction	1256 Aug 12 j 15:46	26° ♂ 51'56	0°54'57
evening set	1251 Feb 03 j 03:59	1° ♂ 26'44		minimum elong	1256 Aug 12 j 15:44	26° ♂ 51'55	0°54'58
				max. Earth dist.	1256 Aug 12 j 12:06	26° ♂ 49'57	6.40235 AU
conjunction	1251 Feb 16 j 05:03	4° ♂ 35'11	0°-59'-16	morning rise	1256 Aug 25 j 20:39	29° ♂ 43'57	
minimum elong	1251 Feb 16 j 05:01	4° ♂ 35'10	0°59'17		1256 Aug 27 j 02:23	0° ♂	
max. Earth dist.	1251 Feb 16 j 17:11	4° ♂ 42'30	5.98104 AU	retrograde	1256 Dec 24 j 14:28	16° ♂ 42'38	
morning rise	1251 Mar 01 j 08:42	7° ♂ 45'11		opposition	1257 Feb 22 j 21:15	11° ♂ 47'25	1°32'09
retrograde	1251 Jul 11 j 12:22	28° ♂ 16'11		min. Earth dist.	1257 Feb 23 j 07:59	11° ♂ 43'56	4.43196 AU
opposition	1251 Sep 09 j 12:03	23° ♂ 14'26	-1°-39'-39	direct	1257 Apr 26 j 01:30	6° ♂ 44'29	
min. Earth dist.	1251 Sep 08 j 18:01	23° ♂ 20'29	3.96397 AU	evening set	1257 Aug 30 j 22:35	24° ♂ 20'35	
direct	1251 Nov 06 j 15:51	18° ♂ 20'37					
	1252 Feb 05 j 08:57	0° ♂		conjunction	1257 Sep 12 j 22:31	27° ♂ 09'17	1°07'50
evening set	1252 Mar 11 j 01:34	7° ♂ 59'36		minimum elong	1257 Sep 12 j 22:30	27° ♂ 09'17	1°07'49
				max. Earth dist.	1257 Sep 11 j 17:29	26° ♂ 53'33	6.44331 AU
conjunction	1252 Mar 24 j 10:26	11° ♂ 12'14	-1°-6'-26	morning rise	1257 Sep 25 j 19:38	29° ♂ 56'36	
minimum elong	1252 Mar 24 j 10:26	11° ♂ 12'15	1°06'27		1257 Sep 26 j 01:56	0° ♂	
max. Earth dist.	1252 Mar 26 j 02:31	11° ♂ 36'20	5.96754 AU	retrograde	1258 Jan 23 j 23:18	16° ♂ 44'13	
morning rise	1252 Apr 06 j 22:32	14° ♂ 26'31		opposition	1258 Mar 25 j 13:25	11° ♂ 51'29	1°37'45
	1252 Jun 20 j 12:34	0° ♂		min. Earth dist.	1258 Mar 26 j 16:17	11° ♂ 42'52	4.43822 AU
retrograde	1252 Aug 16 j 23:13	4° ♂ 56'29		direct	1258 May 27 j 07:15	6° ♂ 49'29	
min. Earth dist.	1252 Oct 14 j 07:00	0° ♂ 02'55	3.99467 AU	evening set	1258 Sep 30 j 16:57	24° ♂ 26'10	
	1252 Oct 14 j 15:34	30° ♂		max. Earth dist.	1258 Oct 11 j 14:15	26° ♂ 49'02	6.41358 AU
opposition	1252 Oct 15 j 15:23	29° ♂ 51'54	-1°-29'-47				
direct	1252 Dec 12 j 13:10	24° ♂ 56'00		conjunction	1258 Oct 13 j 11:20	27° ♂ 13'46	1°02'11
	1253 Feb 07 j 12:48	0° ♂		minimum elong	1258 Oct 13 j 11:21	27° ♂ 13'47	1°02'12

morning rise	1258 Oct 26 j 03:18	0°♄00'20		retrograde	1264 Aug 22 j 01:46	10°♄07'34	
	1258 Oct 26 j 02:42	0°♄		min. Earth dist.	1264 Oct 19 j 08:19	5°♄13'55	4.00320 AU
	1259 Jan 18 j 00:47	15°♄		opposition	1264 Oct 20 j 16:56	5°♄02'47	-1°-25'-19
retrograde	1259 Feb 24 j 04:12	17°♄04'45		direct	1264 Dec 17 j 16:19	0°♄06'32	
	1259 Apr 02 j 16:30	15°♄			1265 Apr 03 j 02:12	15°♄	
opposition	1259 Apr 26 j 01:24	12°♄12'54	1°16'57	evening set	1265 Apr 22 j 17:27	19°♄30'27	
min. Earth dist.	1259 Apr 27 j 11:50	12°♄01'56	4.37452 AU				
direct	1259 Jun 27 j 14:40	7°♄12'44		conjunction	1265 May 06 j 10:11	22°♄42'48	0°-43'-28
	1259 Sep 12 j 12:34	15°♄		minimum elong	1265 May 06 j 10:14	22°♄42'49	0°43'28
evening set	1259 Oct 31 j 11:54	25°♄05'42		max. Earth dist.	1265 May 08 j 17:02	23°♄14'56	6.05235 AU
max. Earth dist.	1259 Nov 11 j 03:41	27°♄28'54	6.32054 AU	morning rise	1265 May 20 j 04:45	25°♄55'53	
					1265 Jun 06 j 23:59	0°♄	
conjunction	1259 Nov 13 j 03:42	27°♄55'53	0°39'07	retrograde	1265 Sep 26 j 08:54	15°♄31'17	
minimum elong	1259 Nov 13 j 03:44	27°♄55'54	0°39'07	opposition	1265 Nov 24 j 21:58	10°♄26'43	0°-38'-25
	1259 Nov 22 j 08:32	0°♄		min. Earth dist.	1265 Nov 23 j 13:19	10°♄37'50	4.11526 AU
morning rise	1259 Nov 25 j 18:02	0°♄45'37		direct	1266 Jan 22 j 15:11	5°♄27'30	
retrograde	1260 Mar 28 j 04:35	18°♄32'57		evening set	1266 May 29 j 05:29	24°♄17'56	
opposition	1260 May 28 j 03:12	13°♄40'27	0°33'03				
min. Earth dist.	1260 May 29 j 12:47	13°♄29'45	4.25705 AU	conjunction	1266 Jun 11 j 23:35	27°♄24'59	0°-6'-40
direct	1260 Jul 28 j 21:29	8°♄42'44		minimum elong	1266 Jun 11 j 23:36	27°♄24'59	0°06'40
evening set	1260 Dec 01 j 05:36	27°♄05'19		behind sun begin	1266 Jun 11 j 15:48	27°♄20'35	
max. Earth dist.	1260 Dec 12 j 06:05	29°♄38'02	6.18836 AU	behind sun end	1266 Jun 12 j 07:24	27°♄29'23	
				max. Earth dist.	1266 Jun 13 j 19:13	27°♄49'43	6.18509 AU
conjunction	1260 Dec 13 j 21:49	0°♄01'03	0°03'34		1266 Jun 23 j 09:28	0°♄	
minimum elong	1260 Dec 13 j 21:50	0°♄01'04	0°03'34	morning rise	1266 Jun 25 j 17:55	0°♄31'47	
behind sun begin	1260 Dec 13 j 13:55	29°♄56'30		asc. node	1266 Aug 18 j 09:14	11°♄39'44	
behind sun end	1260 Dec 14 j 05:46	0°♄05'38		retrograde	1266 Oct 29 j 08:05	18°♄59'04	
	1260 Dec 13 j 20:03	0°♄		min. Earth dist.	1266 Dec 27 j 03:19	14°♄04'15	4.25483 AU
morning rise	1260 Dec 26 j 14:21	2°♄57'10		opposition	1266 Dec 28 j 00:41	13°♄57'03	0°18'44
desc. node	1261 Jan 18 j 12:45	8°♄07'15		direct	1267 Feb 26 j 01:20	8°♄55'19	
retrograde	1261 May 02 j 09:51	21°♄46'46		evening set	1267 Jul 02 j 22:54	27°♄09'35	
opposition	1261 Jul 02 j 04:25	16°♄51'58	0°-24'-6		1267 Jul 15 j 20:35	0°♄	
min. Earth dist.	1261 Jul 03 j 00:42	16°♄45'25	4.11894 AU				
direct	1261 Aug 31 j 14:20	11°♄56'42		conjunction	1267 Jul 16 j 12:56	0°♄09'01	0°30'50
	1261 Dec 30 j 17:49	0°♄		minimum elong	1267 Jul 16 j 12:54	0°♄09'00	0°30'49
evening set	1262 Jan 03 j 16:29	0°♄55'45		max. Earth dist.	1267 Jul 17 j 09:52	0°♄20'33	6.32057 AU
				morning rise	1267 Jul 30 j 01:01	3°♄07'20	
conjunction	1262 Jan 16 j 12:19	3°♄58'33	0°-34'-47		1267 Sep 28 j 02:59	15°♄	
minimum elong	1262 Jan 16 j 12:17	3°♄58'32	0°34'47	retrograde	1267 Nov 29 j 11:53	20°♄36'06	
max. Earth dist.	1262 Jan 15 j 21:06	3°♄49'30	6.05673 AU	opposition	1268 Jan 28 j 11:26	15°♄37'52	1°06'49
morning rise	1262 Jan 29 j 09:41	7°♄02'27		min. Earth dist.	1268 Jan 28 j 06:41	15°♄39'26	4.37539 AU
	1262 Mar 05 j 09:55	15°♄			1268 Feb 02 j 06:22	15°♄	
retrograde	1262 Jun 08 j 16:37	26°♄57'01		direct	1268 Mar 29 j 19:20	10°♄34'56	
opposition	1262 Aug 08 j 01:04	21°♄58'44	-1°-16'-12		1268 May 25 j 02:22	15°♄	
min. Earth dist.	1262 Aug 08 j 01:33	21°♄58'34	4.00594 AU	evening set	1268 Aug 03 j 19:04	28°♄21'37	
direct	1262 Oct 06 j 01:28	17°♄05'06			1268 Aug 11 j 09:04	0°♄	
	1263 Jan 10 j 23:21	0°♄					
evening set	1263 Feb 08 j 04:25	6°♄34'36		conjunction	1268 Aug 17 j 01:25	1°♄14'00	0°57'44
				minimum elong	1268 Aug 17 j 01:23	1°♄13'58	0°57'44
conjunction	1263 Feb 21 j 06:23	9°♄43'53	-1°-1'-47	max. Earth dist.	1268 Aug 16 j 16:51	1°♄09'20	6.41670 AU
minimum elong	1263 Feb 21 j 06:21	9°♄43'52	1°01'48	morning rise	1268 Aug 30 j 05:12	4°♄04'57	
max. Earth dist.	1263 Feb 21 j 21:31	9°♄53'01	5.97253 AU	retrograde	1268 Dec 28 j 18:35	20°♄58'50	
morning rise	1263 Mar 06 j 11:21	12°♄54'49		opposition	1269 Feb 27 j 02:04	16°♄04'00	1°34'21
	1263 May 29 j 22:22	0°♄		min. Earth dist.	1269 Feb 27 j 16:05	15°♄59'27	4.44198 AU
retrograde	1263 Jul 16 j 18:06	3°♄29'27		direct	1269 Apr 30 j 10:28	11°♄01'03	
	1263 Sep 03 j 00:23	30°♄		evening set	1269 Sep 04 j 03:54	28°♄34'33	
opposition	1263 Sep 14 j 16:56	28°♄27'16	-1°-40'-43		1269 Sep 10 j 18:20	0°♄	
min. Earth dist.	1263 Sep 13 j 19:35	28°♄34'26	3.96114 AU	max. Earth dist.	1269 Sep 15 j 19:39	1°♄05'42	6.44804 AU
direct	1263 Nov 11 j 17:38	23°♄33'18					
	1264 Jan 15 j 09:58	0°♄		conjunction	1269 Sep 17 j 03:00	1°♄22'41	1°08'05
evening set	1264 Mar 16 j 06:25	13°♄12'59		minimum elong	1269 Sep 17 j 03:00	1°♄22'41	1°08'05
				morning rise	1269 Sep 29 j 23:05	4°♄09'27	
conjunction	1264 Mar 29 j 16:27	16°♄26'02	-1°-5'-16	retrograde	1270 Jan 28 j 01:27	20°♄56'17	
minimum elong	1264 Mar 29 j 16:28	16°♄26'03	1°05'17	opposition	1270 Mar 29 j 18:10	16°♄03'42	1°36'19
max. Earth dist.	1264 Mar 31 j 11:13	16°♄51'43	5.97058 AU	min. Earth dist.	1270 Mar 30 j 22:02	15°♄54'46	4.43738 AU
morning rise	1264 Apr 12 j 05:35	19°♄40'38		direct	1270 May 31 j 11:51	11°♄01'49	
	1264 May 28 j 05:57	0°♄		evening set	1270 Oct 04 j 19:59	28°♄38'35	

	1270 Oct 11 j 00:54	0°♄		conjunction	1276 Apr 04 j 01:31	21°♃45'42	-1°-3'-30
max. Earth dist.	1270 Oct 15 j 15:04	1°♄00'31	6.40705 AU	minimum elong	1276 Apr 04 j 01:33	21°♃45'43	1°03'31
				max. Earth dist.	1276 Apr 06 j 01:11	22°♃14'16	5.97367 AU
conjunction	1270 Oct 17 j 13:43	1°♄26'10	0°59'58	morning rise	1276 Apr 17 j 15:45	25°♃00'37	
minimum elong	1270 Oct 17 j 13:45	1°♄26'11	0°59'58		1276 May 09 j 01:48	0°♄	
morning rise	1270 Oct 30 j 05:13	4°♄12'48			1276 Aug 11 j 19:33	15°♄	
	1270 Dec 23 j 00:59	15°♄		retrograde	1276 Aug 27 j 06:34	15°♄23'36	
retrograde	1271 Feb 28 j 12:13	21°♄20'48			1276 Sep 11 j 14:32	15°♄	
opposition	1271 Apr 30 j 09:26	16°♄28'58	1°12'11	min. Earth dist.	1276 Oct 24 j 10:24	10°♄30'17	4.01345 AU
min. Earth dist.	1271 May 01 j 21:50	16°♄17'23	4.36240 AU	opposition	1276 Oct 25 j 20:38	10°♄18'37	-1°-20'-2
	1271 May 12 j 04:56	15°♄		direct	1276 Dec 22 j 20:23	5°♄21'58	
direct	1271 Jul 01 j 22:12	11°♄28'59			1277 Mar 14 j 23:31	15°♄	
	1271 Aug 20 j 16:44	15°♄		evening set	1277 Apr 28 j 00:34	24°♄42'14	
evening set	1271 Nov 04 j 16:19	29°♄25'03					
	1271 Nov 07 j 06:43	0°♄		conjunction	1277 May 11 j 17:43	27°♄54'04	0°-38'-44
max. Earth dist.	1271 Nov 15 j 06:08	1°♄47'44	6.30364 AU	minimum elong	1277 May 11 j 17:46	27°♄54'05	0°38'45
				max. Earth dist.	1277 May 13 j 23:49	28°♄25'37	6.06844 AU
conjunction	1271 Nov 17 j 07:59	2°♄15'51	0°34'52		1277 May 20 j 17:56	0°♄	
minimum elong	1271 Nov 17 j 08:01	2°♄15'52	0°34'53	morning rise	1277 May 25 j 12:48	1°♄06'34	
morning rise	1271 Nov 29 j 22:33	5°♄06'20		retrograde	1277 Oct 01 j 04:28	20°♄32'31	
retrograde	1272 Apr 01 j 18:45	23°♄01'33		min. Earth dist.	1277 Nov 28 j 10:25	15°♄38'58	4.13501 AU
opposition	1272 Jun 01 j 17:15	18°♄08'46	0°25'48	opposition	1277 Nov 29 j 18:30	15°♄28'03	0°-30'-18
min. Earth dist.	1272 Jun 03 j 01:39	17°♄58'24	4.23630 AU	direct	1278 Jan 27 j 16:13	10°♄28'20	
direct	1272 Aug 02 j 06:46	13°♄11'15		evening set	1278 Jun 03 j 06:57	29°♄12'58	
	1272 Nov 28 j 09:17	0°♄			1278 Jun 06 j 18:38	0°♄	
desc. node	1272 Nov 30 j 07:10	0°♄26'12					
evening set	1272 Dec 05 j 15:08	1°♄39'43		conjunction	1278 Jun 17 j 00:55	2°♄18'57	0°-1'00
max. Earth dist.	1272 Dec 16 j 18:54	4°♄15'02	6.16553 AU	minimum elong	1278 Jun 17 j 00:53	2°♄18'56	0°01'01
				behind sun begin	1278 Jun 16 j 16:31	2°♄14'14	
conjunction	1272 Dec 18 j 07:53	4°♄36'35	0°-1'-49	behind sun end	1278 Jun 17 j 09:15	2°♄23'38	
minimum elong	1272 Dec 18 j 07:52	4°♄36'34	0°01'50	max. Earth dist.	1278 Jun 18 j 19:13	2°♄42'51	6.20669 AU
behind sun begin	1272 Dec 17 j 23:52	4°♄31'56		asc. node	1278 Jun 27 j 02:11	4°♄35'00	
behind sun end	1272 Dec 18 j 15:53	4°♄41'12		morning rise	1278 Jun 30 j 18:25	5°♄24'27	
morning rise	1272 Dec 31 j 00:51	7°♄33'52		retrograde	1278 Nov 02 j 20:54	23°♄41'43	
retrograde	1273 May 07 j 10:45	26°♄34'20		opposition	1279 Jan 01 j 13:57	18°♄40'12	0°26'30
opposition	1273 Jul 07 j 02:35	21°♄39'09	0°-31'-58	min. Earth dist.	1278 Dec 31 j 18:36	18°♄46'41	4.27597 AU
min. Earth dist.	1273 Jul 07 j 21:48	21°♄32'56	4.09574 AU	direct	1279 Mar 02 j 19:23	13°♄38'14	
direct	1273 Sep 05 j 07:40	16°♄44'08			1279 Jun 29 j 11:42	0°♄	
	1273 Dec 14 j 04:19	0°♄		evening set	1279 Jul 07 j 17:06	1°♄47'06	
evening set	1274 Jan 08 j 10:22	5°♄50'11					
				conjunction	1279 Jul 21 j 06:01	4°♄45'19	0°35'28
conjunction	1274 Jan 21 j 06:55	8°♄54'16	0°-39'-26	minimum elong	1279 Jul 21 j 05:58	4°♄45'18	0°35'29
minimum elong	1274 Jan 21 j 06:52	8°♄54'14	0°39'27	max. Earth dist.	1279 Jul 21 j 21:47	4°♄53'59	6.33932 AU
max. Earth dist.	1274 Jan 20 j 18:01	8°♄46'33	6.03521 AU	morning rise	1279 Aug 03 j 17:07	7°♄42'24	
morning rise	1274 Feb 03 j 05:27	11°♄59'35			1279 Sep 07 j 14:05	15°♄	
	1274 Feb 16 j 00:11	15°♄		retrograde	1279 Dec 03 j 19:21	25°♄04'03	
	1274 May 08 j 08:24	0°♄		opposition	1280 Feb 01 j 19:57	20°♄06'19	1°12'07
retrograde	1274 Jun 13 j 22:24	2°♄04'21		min. Earth dist.	1280 Feb 01 j 18:13	20°♄06'53	4.39053 AU
	1274 Jul 20 j 15:38	30°♄		direct	1280 Apr 03 j 08:01	15°♄03'17	
opposition	1274 Aug 13 j 05:49	27°♄05'31	-1°-21'-39		1280 Jul 26 j 05:20	0°♄	
min. Earth dist.	1274 Aug 13 j 02:14	27°♄06'42	3.98852 AU	evening set	1280 Aug 08 j 06:35	2°♄46'35	
direct	1274 Oct 11 j 00:25	22°♄11'57					
	1274 Dec 22 j 07:41	0°♄		conjunction	1280 Aug 21 j 11:59	5°♄38'07	1°00'16
evening set	1275 Feb 13 j 07:03	11°♄46'54		minimum elong	1280 Aug 21 j 11:57	5°♄38'06	1°00'15
				max. Earth dist.	1280 Aug 21 j 00:57	5°♄32'08	6.42704 AU
conjunction	1275 Feb 26 j 10:14	14°♄57'16	-1°-3'-47	morning rise	1280 Sep 03 j 14:23	8°♄28'10	
minimum elong	1275 Feb 26 j 10:13	14°♄57'15	1°03'48	retrograde	1281 Jan 01 j 23:26	25°♄18'58	
max. Earth dist.	1275 Feb 27 j 06:30	15°♄09'31	5.96087 AU	opposition	1281 Mar 03 j 08:51	20°♄24'35	1°36'12
morning rise	1275 Mar 11 j 16:24	18°♄09'17		min. Earth dist.	1281 Mar 04 j 00:41	20°♄19'28	4.44706 AU
	1275 May 03 j 20:23	0°♄		direct	1281 May 04 j 18:51	15°♄21'48	
retrograde	1275 Jul 22 j 03:52	8°♄48'24			1281 Aug 25 j 19:21	0°♄	
min. Earth dist.	1275 Sep 19 j 00:39	3°♄53'33	3.95665 AU	evening set	1281 Sep 08 j 11:46	2°♄54'28	
opposition	1275 Sep 20 j 00:03	3°♄45'40	-1°-40'-55	max. Earth dist.	1281 Sep 19 j 22:22	5°♄23'00	6.44736 AU
	1275 Oct 21 j 23:40	30°♄					
direct	1275 Nov 16 j 23:27	28°♄51'27		conjunction	1281 Sep 21 j 09:47	5°♄42'14	1°08'02
	1275 Dec 12 j 21:09	0°♄		minimum elong	1281 Sep 21 j 09:47	5°♄42'14	1°08'03
evening set	1276 Mar 21 j 14:11	18°♄32'12		morning rise	1281 Oct 04 j 05:09	8°♄28'44	

retrograde	1282 Feb 01 j 10:20	25°♂16'45		opposition	1287 Sep 25 j 07:25	9°♂06'38	-1°-40'-18
opposition	1282 Apr 03 j 02:44	20°♂24'26	1°34'26	direct	1287 Nov 22 j 04:57	4°♂12'13	
min. Earth dist.	1282 Apr 04 j 09:24	20°♂14'37	4.43103 AU	evening set	1288 Mar 26 j 21:44	23°♂50'33	
direct	1282 Jun 04 j 21:29	15°♂22'45					
	1282 Sep 25 j 02:36	0°♂		conjunction	1288 Apr 09 j 09:53	27°♂03'54	-1°-1'-18
evening set	1282 Oct 09 j 02:58	3°♂01'25		minimum elong	1288 Apr 09 j 09:55	27°♂03'55	1°01'17
max. Earth dist.	1282 Oct 19 j 20:17	5°♂22'47	6.39546 AU	max. Earth dist.	1288 Apr 11 j 10:46	27°♂33'06	5.98522 AU
					1288 Apr 21 j 17:35	0°♂	
conjunction	1282 Oct 21 j 20:22	5°♂49'18	0°57'22	morning rise	1288 Apr 23 j 01:07	0°♂18'40	
minimum elong	1282 Oct 21 j 20:24	5°♂49'19	0°57'21		1288 Jul 01 j 23:40	15°♂	
morning rise	1282 Nov 03 j 11:29	8°♂36'17		retrograde	1288 Sep 01 j 06:24	20°♂34'15	
	1282 Dec 03 j 15:15	15°♂		min. Earth dist.	1288 Oct 29 j 10:23	15°♂41'02	4.03037 AU
retrograde	1283 Mar 05 j 00:34	25°♂49'40		opposition	1288 Oct 30 j 21:22	15°♂29'06	-1°-14'-16
opposition	1283 May 04 j 22:47	20°♂57'50	1°06'48		1288 Nov 03 j 10:51	15°♂	
min. Earth dist.	1283 May 06 j 10:37	20°♂46'25	4.34627 AU	direct	1288 Dec 27 j 23:59	10°♂31'57	
direct	1283 Jul 06 j 07:49	15°♂58'12			1289 Feb 19 j 12:34	15°♂	
	1283 Oct 22 j 01:19	0°♂		evening set	1289 May 03 j 04:33	29°♂46'33	
evening set	1283 Nov 09 j 02:02	3°♂58'36			1289 May 04 j 03:51	0°♂	
max. Earth dist.	1283 Nov 19 j 17:08	6°♂22'39	6.28430 AU				
				conjunction	1289 May 16 j 22:15	2°♂57'38	0°-33'-52
conjunction	1283 Nov 21 j 17:40	6°♂50'10	0°30'12	minimum elong	1289 May 16 j 22:17	2°♂57'39	0°33'53
minimum elong	1283 Nov 21 j 17:42	6°♂50'11	0°30'12	max. Earth dist.	1289 May 19 j 04:32	3°♂29'08	6.08926 AU
morning rise	1283 Dec 04 j 08:22	9°♂41'31		morning rise	1289 May 30 j 17:15	6°♂09'09	
retrograde	1284 Apr 06 j 17:22	27°♂45'40		retrograde	1289 Oct 05 j 21:32	25°♂24'20	
opposition	1284 Jun 06 j 13:56	22°♂52'43	0°17'58	min. Earth dist.	1289 Dec 03 j 04:54	20°♂30'24	4.15729 AU
min. Earth dist.	1284 Jun 07 j 22:05	22°♂42'25	4.21486 AU	opposition	1289 Dec 04 j 11:02	20°♂20'10	0°-22'-17
direct	1284 Aug 06 j 23:49	17°♂55'37		direct	1290 Feb 01 j 13:29	15°♂20'03	
desc. node	1284 Oct 09 j 12:35	23°♂42'03		asc. node	1290 May 07 j 06:04	27°♂04'03	
	1284 Nov 11 j 06:50	0°♂			1290 May 21 j 03:15	0°♂	
evening set	1284 Dec 10 j 06:49	6°♂29'59		evening set	1290 Jun 08 j 04:20	3°♂58'24	
conjunction	1284 Dec 22 j 23:56	9°♂27'55	0°-7'-24	conjunction	1290 Jun 21 j 21:43	7°♂03'12	0°04'31
minimum elong	1284 Dec 22 j 23:55	9°♂27'55	0°07'25	minimum elong	1290 Jun 21 j 21:44	7°♂03'13	0°04'31
behind sun begin	1284 Dec 22 j 16:35	9°♂23'38		behind sun begin	1290 Jun 21 j 13:33	6°♂58'38	
behind sun end	1284 Dec 23 j 07:15	9°♂32'11		behind sun end	1290 Jun 22 j 05:54	7°♂07'47	
max. Earth dist.	1284 Dec 21 j 12:43	9°♂07'19	6.14398 AU	max. Earth dist.	1290 Jun 23 j 12:08	7°♂24'47	6.22845 AU
morning rise	1285 Jan 04 j 17:38	12°♂26'26		morning rise	1290 Jul 05 j 14:42	10°♂07'30	
	1285 Apr 10 j 04:27	0°♂		retrograde	1290 Nov 07 j 04:39	28°♂15'17	
retrograde	1285 May 12 j 14:41	1°♂37'13		opposition	1291 Jan 05 j 23:34	23°♂14'14	0°33'48
	1285 Jun 14 j 04:43	30°♂		min. Earth dist.	1291 Jan 05 j 06:25	23°♂19'59	4.29544 AU
opposition	1285 Jul 12 j 06:26	26°♂41'37	0°-40'-3	direct	1291 Mar 07 j 08:55	18°♂11'59	
min. Earth dist.	1285 Jul 12 j 21:44	26°♂36'39	4.07615 AU		1291 Jun 12 j 14:17	0°♂	
direct	1285 Sep 10 j 05:18	21°♂46'58		evening set	1291 Jul 12 j 07:32	6°♂16'16	
	1285 Nov 24 j 18:14	0°♂					
evening set	1286 Jan 13 j 09:44	10°♂58'36		conjunction	1291 Jul 25 j 19:33	9°♂13'26	0°39'46
				minimum elong	1291 Jul 25 j 19:30	9°♂13'25	0°39'46
conjunction	1286 Jan 26 j 07:06	14°♂03'43	0°-44'-2	max. Earth dist.	1291 Jul 26 j 07:31	9°♂20'00	6.35508 AU
minimum elong	1286 Jan 26 j 07:04	14°♂03'42	0°44'03	morning rise	1291 Aug 08 j 05:22	12°♂09'22	
max. Earth dist.	1286 Jan 25 j 23:34	13°♂59'12	6.01960 AU		1291 Aug 21 j 10:45	15°♂	
	1286 Jan 30 j 04:54	15°♂		retrograde	1291 Dec 08 j 00:43	29°♂25'12	
morning rise	1286 Feb 08 j 06:33	17°♂10'09		opposition	1292 Feb 06 j 01:50	24°♂28'00	1°16'53
	1286 Apr 08 j 06:35	0°♂		min. Earth dist.	1292 Feb 06 j 03:07	24°♂27'35	4.40164 AU
retrograde	1286 Jun 19 j 09:31	7°♂22'31		direct	1292 Apr 07 j 17:49	19°♂24'57	
opposition	1286 Aug 18 j 14:26	2°♂23'06	-1°-26'-40		1292 Jul 09 j 05:40	0°♂	
min. Earth dist.	1286 Aug 18 j 08:04	2°♂25'13	3.97878 AU	evening set	1292 Aug 12 j 16:02	7°♂06'12	
	1286 Sep 06 j 10:23	30°♂					
direct	1286 Oct 16 j 06:24	27°♂29'37		conjunction	1292 Aug 25 j 20:16	9°♂57'03	1°02'25
	1286 Nov 24 j 09:37	0°♂		minimum elong	1292 Aug 25 j 20:15	9°♂57'02	1°02'25
evening set	1287 Feb 18 j 12:34	17°♂06'50		max. Earth dist.	1292 Aug 25 j 03:56	9°♂48'12	6.43253 AU
				morning rise	1292 Sep 07 j 21:46	12°♂46'30	
conjunction	1287 Mar 03 j 16:55	20°♂17'50	-1°-5'-23	retrograde	1293 Jan 06 j 04:50	29°♂35'50	
minimum elong	1287 Mar 03 j 16:54	20°♂17'50	1°05'23	opposition	1293 Mar 07 j 14:38	24°♂41'48	1°37'31
max. Earth dist.	1287 Mar 04 j 18:47	20°♂33'29	5.95802 AU	min. Earth dist.	1293 Mar 08 j 09:20	24°♂35'45	4.44697 AU
morning rise	1287 Mar 17 j 00:14	23°♂30'30		direct	1293 May 09 j 02:26	19°♂39'03	
	1287 Apr 13 j 19:45	0°♂			1293 Aug 08 j 20:02	0°♂	
retrograde	1287 Jul 27 j 12:05	14°♂09'51		evening set	1293 Sep 12 j 18:36	7°♂12'26	
min. Earth dist.	1287 Sep 24 j 05:14	9°♂15'29	3.96140 AU	max. Earth dist.	1293 Sep 24 j 03:14	9°♂40'08	6.44167 AU

conjunction	1293 Sep 25 j 16:02	10°♄00'09	1°07'38	max. Earth dist.	1299 Mar 10 j 02:53	25°♂50'49	5.95885 AU
minimum elong	1293 Sep 25 j 16:02	10°♄00'09	1°07'37	morning rise	1299 Mar 22 j 06:46	28°♂46'37	
morning rise	1293 Oct 08 j 10:31	12°♄46'34			1299 Mar 27 j 09:38	0°♀	
retrograde	1294 Feb 05 j 17:58	29°♄37'22		retrograde	1299 Aug 01 j 16:14	19°♀24'43	
opposition	1294 Apr 07 j 11:45	24°♄45'13	1°32'03	min. Earth dist.	1299 Sep 29 j 07:36	14°♀30'41	3.96829 AU
min. Earth dist.	1294 Apr 08 j 18:59	24°♄35'14	4.42029 AU	opposition	1299 Sep 30 j 11:53	14°♀21'06	-1°-38'-53
direct	1294 Jun 09 j 04:53	19°♄43'50		direct	1299 Nov 27 j 09:08	9°♀26'22	
	1294 Sep 07 j 23:29	0°♄		evening set	1300 Apr 01 j 02:51	29°♀02'01	
evening set	1294 Oct 13 j 10:35	7°♄25'34			1300 Apr 05 j 04:41	0°♂	
max. Earth dist.	1294 Oct 24 j 01:58	9°♄46'27	6.38046 AU				
conjunction	1294 Oct 26 j 03:27	10°♄13'51	0°54'25	conjunction	1300 Apr 14 j 16:07	2°♂15'17	0°-58'-39
minimum elong	1294 Oct 26 j 03:29	10°♄13'52	0°54'25	minimum elong	1300 Apr 14 j 16:09	2°♂15'18	0°58'39
morning rise	1294 Nov 07 j 18:28	13°♄01'22		max. Earth dist.	1300 Apr 16 j 19:52	2°♂46'04	5.99753 AU
	1294 Nov 16 j 19:22	15°♄		morning rise	1300 Apr 28 j 07:59	5°♂29'48	
	1295 Feb 22 j 14:03	0°♂			1300 Jun 09 j 19:25	15°♂	
retrograde	1295 Mar 09 j 17:03	0°♂21'16		retrograde	1300 Sep 06 j 06:24	25°♂38'05	
	1295 Mar 24 j 18:18	30°♄		min. Earth dist.	1300 Nov 03 j 09:29	20°♂44'36	4.04660 AU
opposition	1295 May 09 j 13:54	25°♄29'23	1°00'59	opposition	1300 Nov 04 j 19:36	20°♂32'58	-1°-8'-5
min. Earth dist.	1295 May 11 j 02:25	25°♄17'45	4.32789 AU	direct	1301 Jan 02 j 01:19	15°♂35'26	
direct	1295 Jul 10 j 21:05	20°♄30'05			1301 Apr 17 j 05:36	0°♄	
	1295 Oct 04 j 06:22	0°♂		evening set	1301 May 08 j 06:23	4°♄45'06	
evening set	1295 Nov 13 j 13:13	8°♂35'20		conjunction	1301 May 22 j 00:18	7°♄55'28	0°-28'-51
max. Earth dist.	1295 Nov 24 j 05:50	11°♂00'54	6.26418 AU	minimum elong	1301 May 22 j 00:20	7°♄55'29	0°28'51
conjunction	1295 Nov 26 j 05:01	11°♂27'46	0°25'18	max. Earth dist.	1301 May 24 j 04:59	8°♄25'54	6.10790 AU
minimum elong	1295 Nov 26 j 05:02	11°♂27'46	0°25'17	morning rise	1301 Jun 04 j 19:29	11°♄06'11	
morning rise	1295 Dec 08 j 19:56	14°♂20'03			1301 Sep 29 j 12:12	0°♄	
	1296 Mar 01 j 08:44	0°♄		retrograde	1301 Oct 10 j 10:49	0°♄11'54	
retrograde	1296 Apr 11 j 15:02	2°♄33'12			1301 Oct 21 j 08:35	30°♄	
	1296 May 23 j 11:17	30°♄		min. Earth dist.	1301 Dec 07 j 20:31	25°♄18'01	4.17651 AU
opposition	1296 Jun 11 j 12:08	27°♂39'56	0°09'53	opposition	1301 Dec 09 j 01:48	25°♄08'05	0°-14'-15
min. Earth dist.	1296 Jun 12 j 17:19	27°♂30'35	4.19454 AU	direct	1302 Feb 06 j 07:17	20°♄07'38	
direct	1296 Aug 11 j 16:12	22°♂43'16		asc. node	1302 Mar 17 j 12:06	22°♄30'42	
desc. node	1296 Aug 18 j 15:45	22°♂47'51			1302 May 03 j 01:39	0°♄	
	1296 Oct 22 j 15:55	0°♄		evening set	1302 Jun 13 j 00:33	8°♄41'10	
evening set	1296 Dec 14 j 23:54	11°♄22'56		conjunction	1302 Jun 26 j 17:28	11°♄44'58	0°09'51
max. Earth dist.	1296 Dec 26 j 10:12	14°♄03'31	6.12523 AU	minimum elong	1302 Jun 26 j 17:27	11°♄44'58	0°09'51
conjunction	1296 Dec 27 j 17:23	14°♄21'50	0°-12'-58	behind sun begin	1302 Jun 26 j 10:45	11°♄41'14	
minimum elong	1296 Dec 27 j 17:22	14°♄21'50	0°12'58	behind sun end	1302 Jun 27 j 00:10	11°♄48'42	
behind sun begin	1296 Dec 27 j 12:22	14°♄18'54		max. Earth dist.	1302 Jun 28 j 03:58	12°♄04'18	6.24683 AU
behind sun end	1296 Dec 27 j 22:22	14°♄24'45		morning rise	1302 Jul 10 j 09:38	14°♄48'08	
morning rise	1297 Jan 09 j 11:43	17°♄21'25			1302 Sep 29 j 20:16	0°♄	
	1297 Mar 10 j 03:33	0°♄		retrograde	1302 Nov 11 j 14:22	2°♄47'59	
retrograde	1297 May 17 j 21:18	6°♄41'22			1302 Dec 24 j 05:42	30°♄	
opposition	1297 Jul 17 j 11:15	1°♄45'15	0°-47'-53	opposition	1303 Jan 10 j 08:52	27°♄47'30	0°40'52
min. Earth dist.	1297 Jul 18 j 00:03	1°♄41'05	4.06053 AU	min. Earth dist.	1303 Jan 09 j 19:02	27°♄52'07	4.31142 AU
	1297 Jul 31 j 05:58	30°♄		direct	1303 Mar 11 j 23:22	22°♄45'05	
direct	1297 Sep 15 j 06:37	26°♄50'51			1303 May 24 j 06:51	0°♄	
	1297 Oct 30 j 02:05	0°♄		evening set	1303 Jul 16 j 21:52	10°♄45'59	
	1298 Jan 13 j 17:35	15°♄		conjunction	1303 Jul 30 j 08:56	13°♄42'15	0°43'50
evening set	1298 Jan 18 j 09:09	16°♄06'21		minimum elong	1303 Jul 30 j 08:54	13°♄42'14	0°43'49
conjunction	1298 Jan 31 j 07:22	19°♄12'20	0°-48'-18	max. Earth dist.	1303 Jul 30 j 16:47	13°♄46'33	6.36739 AU
minimum elong	1298 Jan 31 j 07:19	19°♄12'19	0°48'19		1303 Aug 05 j 07:11	15°♄	
max. Earth dist.	1298 Jan 31 j 04:53	19°♄10'51	6.00847 AU	morning rise	1303 Aug 12 j 17:42	16°♄37'14	
morning rise	1298 Feb 13 j 07:45	22°♄19'41			1303 Oct 22 j 13:43	0°♄	
	1298 Mar 18 j 15:59	0°♄		retrograde	1303 Dec 12 j 05:31	3°♄48'32	
retrograde	1298 Jun 24 j 18:07	12°♄37'27			1304 Feb 01 j 14:50	30°♄	
opposition	1298 Aug 23 j 21:40	7°♄37'31	-1°-30'-55	opposition	1304 Feb 10 j 08:31	28°♄51'49	1°21'15
min. Earth dist.	1298 Aug 23 j 11:50	7°♄40'47	3.97358 AU	min. Earth dist.	1304 Feb 10 j 11:54	28°♄50'42	4.40973 AU
direct	1298 Oct 21 j 09:21	2°♄44'04		direct	1304 Apr 12 j 02:55	23°♄48'45	
evening set	1299 Feb 23 j 17:01	22°♄22'06			1304 Jun 19 j 05:58	0°♄	
conjunction	1299 Mar 08 j 22:15	25°♄33'30	-1°-6'-25	evening set	1304 Aug 17 j 01:55	11°♄28'46	
minimum elong	1299 Mar 08 j 22:14	25°♄33'30	1°06'27	max. Earth dist.	1304 Aug 29 j 10:18	14°♄08'52	6.43583 AU
				conjunction	1304 Aug 30 j 05:11	14°♄19'06	1°04'14

minimum elong	1304 Aug 30 j 05:10	14° \mathbb{M} 19'05	1°04'14	morning rise	1310 Feb 18 j 06:52	27° \approx 23'05	
morning rise	1304 Sep 12 j 05:31	17° \mathbb{M} 07'59			1310 Mar 01 j 07:49	0° \mathbb{H}	
	1304 Nov 19 j 13:29	0° $\underline{\mathbb{A}}$		retrograde	1310 Jun 29 j 21:30	17° \mathbb{H} 44'28	
retrograde	1305 Jan 10 j 11:17	3° $\underline{\mathbb{A}}$ 56'37		opposition	1310 Aug 29 j 01:12	12° \mathbb{H} 43'55	-1°-34'-17
	1305 Mar 04 j 11:55	30° \mathbb{R} \mathbb{M}		min. Earth dist.	1310 Aug 28 j 12:27	12° \mathbb{H} 48'10	3.97152 AU
opposition	1305 Mar 11 j 21:57	29° \mathbb{M} 02'59	1°38'21	direct	1310 Oct 26 j 10:27	7° \mathbb{H} 50'20	
min. Earth dist.	1305 Mar 12 j 18:43	28° \mathbb{M} 56'17	4.44548 AU	evening set	1311 Feb 28 j 17:51	27° \mathbb{H} 28'11	
direct	1305 May 13 j 11:25	24° \mathbb{M} 00'28			1311 Mar 11 j 06:05	0° \mathbb{Y}	
	1305 Jul 19 j 17:22	0° $\underline{\mathbb{A}}$					
evening set	1305 Sep 17 j 02:41	11° $\underline{\mathbb{A}}$ 34'43		conjunction	1311 Mar 14 j 00:17	0° \mathbb{Y} 39'57	-1°-6'-54
max. Earth dist.	1305 Sep 28 j 07:01	14° $\underline{\mathbb{A}}$ 00'27	6.43546 AU	minimum elong	1311 Mar 14 j 00:17	0° \mathbb{Y} 39'57	1°06'55
				max. Earth dist.	1311 Mar 15 j 09:30	0° \mathbb{Y} 59'59	5.96179 AU
conjunction	1305 Sep 29 j 23:13	14° $\underline{\mathbb{A}}$ 22'21	1°06'51	morning rise	1311 Mar 27 j 09:40	3° \mathbb{Y} 53'20	
minimum elong	1305 Sep 29 j 23:14	14° $\underline{\mathbb{A}}$ 22'22	1°06'50	retrograde	1311 Aug 06 j 18:33	24° \mathbb{Y} 29'16	
morning rise	1305 Oct 12 j 17:11	17° $\underline{\mathbb{A}}$ 08'47		min. Earth dist.	1311 Oct 04 j 07:34	19° \mathbb{Y} 35'03	3.97596 AU
	1305 Dec 19 j 10:51	0° \mathbb{M}		opposition	1311 Oct 05 j 12:13	19° \mathbb{Y} 25'21	-1°-36'-44
retrograde	1306 Feb 10 j 04:57	4° \mathbb{M} 02'32		direct	1311 Dec 02 j 10:10	14° \mathbb{Y} 30'17	
	1306 Apr 05 j 10:40	30° \mathbb{R} $\underline{\mathbb{A}}$			1312 Mar 19 j 18:29	0° \mathbb{B}	
opposition	1306 Apr 11 j 22:31	29° $\underline{\mathbb{A}}$ 10'31	1°29'08	evening set	1312 Apr 06 j 04:17	4° \mathbb{B} 03'10	
min. Earth dist.	1306 Apr 13 j 07:00	29° $\underline{\mathbb{A}}$ 00'08	4.41000 AU				
direct	1306 Jun 13 j 15:27	24° $\underline{\mathbb{A}}$ 09'24		conjunction	1312 Apr 19 j 18:18	7° \mathbb{B} 16'17	0°-55'-39
	1306 Aug 18 j 14:19	0° \mathbb{M}		minimum elong	1312 Apr 19 j 18:21	7° \mathbb{B} 16'18	0°55'40
evening set	1306 Oct 17 j 19:10	11° \mathbb{M} 53'47		max. Earth dist.	1312 Apr 21 j 22:07	7° \mathbb{B} 47'00	6.00904 AU
max. Earth dist.	1306 Oct 28 j 11:34	14° \mathbb{M} 15'40	6.36715 AU	morning rise	1312 May 03 j 11:04	10° \mathbb{B} 30'36	
					1312 May 22 j 21:34	15° \mathbb{B}	
conjunction	1306 Oct 30 j 11:52	14° \mathbb{M} 42'30	0°51'09		1312 Aug 23 j 23:52	0° \mathbb{I}	
minimum elong	1306 Oct 30 j 11:54	14° \mathbb{M} 42'31	0°51'10	retrograde	1312 Sep 10 j 23:46	0° \mathbb{I} 31'59	
	1306 Oct 31 j 19:21	15° \mathbb{M}			1312 Sep 28 j 20:59	30° \mathbb{R} \mathbb{B}	
morning rise	1306 Nov 12 j 02:30	17° \mathbb{M} 30'27		min. Earth dist.	1312 Nov 08 j 03:09	25° \mathbb{B} 38'42	4.06079 AU
	1307 Jan 14 j 14:31	0° \mathbb{J}		opposition	1312 Nov 09 j 13:40	25° \mathbb{B} 26'56	-1°-1'-40
retrograde	1307 Mar 14 j 07:41	4° \mathbb{J} 56'12		direct	1313 Jan 06 j 20:43	20° \mathbb{B} 28'59	
opposition	1307 May 14 j 06:03	0° \mathbb{J} 04'13	0°54'46		1313 Mar 30 j 02:34	0° \mathbb{I}	
	1307 May 14 j 19:19	30° \mathbb{R} \mathbb{M}		evening set	1313 May 13 j 05:06	9° \mathbb{I} 34'50	
min. Earth dist.	1307 May 15 j 17:14	29° \mathbb{M} 53'01	4.31250 AU				
direct	1307 Jul 15 j 09:43	25° \mathbb{M} 05'22		conjunction	1313 May 26 j 23:15	12° \mathbb{I} 44'36	0°-23'-49
	1307 Sep 12 j 12:56	0° \mathbb{J}		minimum elong	1313 May 26 j 23:17	12° \mathbb{I} 44'37	0°23'50
evening set	1307 Nov 18 j 00:49	13° \mathbb{J} 14'08		max. Earth dist.	1313 May 29 j 01:17	13° \mathbb{I} 13'24	6.12370 AU
max. Earth dist.	1307 Nov 28 j 18:57	15° \mathbb{J} 41'10	6.24806 AU	morning rise	1313 Jun 09 j 18:25	15° \mathbb{I} 54'35	
					1313 Aug 18 j 18:34	0° \mathbb{B}	
conjunction	1307 Nov 30 j 16:29	16° \mathbb{J} 07'12	0°20'15	retrograde	1313 Oct 14 j 23:57	4° \mathbb{B} 52'11	
minimum elong	1307 Nov 30 j 16:30	16° \mathbb{J} 07'12	0°20'15	min. Earth dist.	1313 Dec 12 j 11:29	29° \mathbb{I} 57'46	4.19230 AU
morning rise	1307 Dec 13 j 07:44	19° \mathbb{J} 00'16			1313 Dec 12 j 04:55	30° \mathbb{R} \mathbb{I}	
	1308 Feb 03 j 17:43	0° \mathbb{B}		opposition	1313 Dec 13 j 14:03	29° \mathbb{I} 48'46	0°-6'-25
retrograde	1308 Apr 16 j 14:07	7° \mathbb{B} 21'04		asc. node	1314 Jan 27 j 01:10	25° \mathbb{I} 10'09	
opposition	1308 Jun 16 j 10:29	2° \mathbb{B} 27'27	0°01'48	direct	1314 Feb 11 j 00:09	24° \mathbb{I} 48'00	
min. Earth dist.	1308 Jun 17 j 14:06	2° \mathbb{B} 18'35	4.17867 AU		1314 Apr 11 j 17:45	0° \mathbb{B}	
desc. node	1308 Jun 28 j 19:57	0° \mathbb{B} 53'35		evening set	1314 Jun 17 j 18:30	13° \mathbb{B} 17'58	
	1308 Jul 06 j 11:42	30° \mathbb{R} \mathbb{J}					
direct	1308 Aug 16 j 11:55	27° \mathbb{J} 31'06		conjunction	1314 Jul 01 j 11:02	16° \mathbb{B} 20'58	0°14'59
	1308 Sep 25 j 19:39	0° \mathbb{B}		minimum elong	1314 Jul 01 j 11:01	16° \mathbb{B} 20'57	0°15'00
evening set	1308 Dec 19 j 16:05	16° \mathbb{B} 14'19		behind sun begin	1314 Jul 01 j 08:24	16° \mathbb{B} 19'30	
max. Earth dist.	1308 Dec 31 j 06:57	18° \mathbb{B} 58'02	6.11115 AU	behind sun end	1314 Jul 01 j 13:39	16° \mathbb{B} 22'25	
				max. Earth dist.	1314 Jul 02 j 19:10	16° \mathbb{B} 38'54	6.26151 AU
conjunction	1309 Jan 01 j 10:04	19° \mathbb{B} 13'59	0°-18'-20	morning rise	1314 Jul 15 j 02:26	19° \mathbb{B} 23'11	
minimum elong	1309 Jan 01 j 10:03	19° \mathbb{B} 13'58	0°18'21		1314 Sep 04 j 21:55	0° \mathbb{Q}	
morning rise	1309 Jan 14 j 04:55	22° \mathbb{B} 14'25		retrograde	1314 Nov 15 j 20:38	7° \mathbb{Q} 16'29	
	1309 Feb 17 j 16:31	0° \approx		opposition	1315 Jan 14 j 16:54	2° \mathbb{Q} 16'31	0°47'31
retrograde	1309 May 23 j 00:20	11° \approx 41'27		min. Earth dist.	1315 Jan 14 j 04:19	2° \mathbb{Q} 20'43	4.32408 AU
opposition	1309 Jul 22 j 13:51	6° \approx 44'52	0°-55'-10		1315 Feb 01 j 10:59	30° \mathbb{R} \mathbb{B}	
min. Earth dist.	1309 Jul 22 j 23:24	6° \approx 41'45	4.04965 AU	direct	1315 Mar 16 j 10:10	27° \mathbb{B} 13'59	
direct	1309 Sep 20 j 04:30	1° \approx 50'42			1315 Apr 28 j 21:04	0° \mathbb{Q}	
	1309 Dec 27 j 20:31	15° \approx			1315 Jul 20 j 12:02	15° \mathbb{Q}	
evening set	1310 Jan 23 j 06:42	21° \approx 08'28		evening set	1315 Jul 21 j 11:06	15° \mathbb{Q} 12'30	
conjunction	1310 Feb 05 j 05:29	24° \approx 15'02	0°-52'-3	conjunction	1315 Aug 03 j 21:06	18° \mathbb{Q} 07'57	0°47'33
minimum elong	1310 Feb 05 j 05:27	24° \approx 15'00	0°52'04	minimum elong	1315 Aug 03 j 21:04	18° \mathbb{Q} 07'56	0°47'33
max. Earth dist.	1310 Feb 05 j 06:13	24° \approx 15'28	6.00158 AU	max. Earth dist.	1315 Aug 04 j 00:53	18° \mathbb{Q} 10'01	6.37717 AU





























































































































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	1315 Sep 30 j 03:30	0°♂			1321 Jan 31 j 07:25	0°♂	
retrograde	1315 Dec 16 j 11:59	8°♂09'41			1321 Apr 24 j 20:35	15°♂	
opposition	1316 Feb 14 j 14:57	3°♂13'28	1°25'04	retrograde	1321 May 28 j 04:32	16°♂42'57	
min. Earth dist.	1316 Feb 14 j 21:15	3°♂11'24	4.41620 AU		1321 Jun 30 j 14:23	15°♂	
	1316 Mar 12 j 11:25	30°♂		opposition	1321 Jul 27 j 16:47	11°♂45'49	-1°-2'-10
direct	1316 Apr 16 j 13:23	28°♂10'26		min. Earth dist.	1321 Jul 27 j 23:20	11°♂43'40	4.03463 AU
	1316 May 21 j 23:51	0°♂		direct	1321 Sep 25 j 02:41	6°♂51'47	
evening set	1316 Aug 21 j 11:16	15°♂49'26			1321 Dec 08 j 16:04	15°♂	
				evening set	1322 Jan 28 j 05:10	26°♂13'45	
conjunction	1316 Sep 03 j 13:34	18°♂39'16	1°05'39	conjunction	1322 Feb 10 j 05:03	29°♂21'15	0°-55'-30
minimum elong	1316 Sep 03 j 13:32	18°♂39'15	1°05'40	minimum elong	1322 Feb 10 j 05:01	29°♂21'14	0°55'31
max. Earth dist.	1316 Sep 02 j 15:33	18°♂27'21	6.43836 AU	max. Earth dist.	1322 Feb 10 j 11:21	29°♂25'03	5.99035 AU
morning rise	1316 Sep 16 j 12:54	21°♂27'39			1322 Feb 12 j 21:19	0°♂	
	1316 Oct 28 j 12:57	0°♂		morning rise	1322 Feb 23 j 07:20	2°♂30'15	
retrograde	1317 Jan 14 j 16:50	8°♂15'43		retrograde	1322 Jul 05 j 05:27	22°♂57'02	
opposition	1317 Mar 16 j 05:00	3°♂22'19	1°38'35	opposition	1322 Sep 03 j 06:38	17°♂55'59	-1°-37'-3
min. Earth dist.	1317 Mar 17 j 02:54	3°♂15'16	4.44416 AU	min. Earth dist.	1322 Sep 02 j 16:03	18°♂00'52	3.96549 AU
	1317 Apr 14 j 00:20	30°♂		direct	1322 Oct 31 j 13:14	13°♂02'22	
direct	1317 May 17 j 19:17	28°♂19'56			1323 Feb 22 j 13:51	0°♂	
	1317 Jun 20 j 20:35	0°♂		evening set	1323 Mar 05 j 21:56	2°♂41'46	
evening set	1317 Sep 21 j 09:45	15°♂54'42					
max. Earth dist.	1317 Oct 02 j 13:08	18°♂20'08	6.43022 AU	conjunction	1323 Mar 19 j 05:22	5°♂54'03	-1°-6'-53
				minimum elong	1323 Mar 19 j 05:22	5°♂54'03	1°06'53
conjunction	1317 Oct 04 j 05:39	18°♂42'16	1°05'40	max. Earth dist.	1323 Mar 20 j 17:03	6°♂15'33	5.96129 AU
minimum elong	1317 Oct 04 j 05:40	18°♂42'16	1°05'40	morning rise	1323 Apr 01 j 16:07	9°♂08'01	
morning rise	1317 Oct 16 j 22:50	21°♂28'38		retrograde	1323 Aug 11 j 22:11	29°♂42'45	
	1317 Nov 27 j 11:59	0°♂		min. Earth dist.	1323 Oct 09 j 08:12	24°♂49'04	3.98127 AU
retrograde	1318 Feb 14 j 13:41	8°♂24'59		opposition	1323 Oct 10 j 15:15	24°♂38'32	-1°-33'-49
opposition	1318 Apr 16 j 08:40	3°♂33'04	1°25'41	direct	1323 Dec 07 j 12:06	19°♂43'08	
min. Earth dist.	1318 Apr 17 j 18:01	3°♂22'26	4.40089 AU		1324 Mar 01 j 05:40	0°♂	
	1318 May 17 j 10:01	30°♂		evening set	1324 Apr 11 j 09:43	9°♂14'17	
direct	1318 Jun 18 j 01:07	28°♂32'16					
	1318 Jul 19 j 17:19	0°♂		conjunction	1324 Apr 25 j 00:42	12°♂27'21	0°-52'-9
	1318 Oct 16 j 03:11	15°♂		minimum elong	1324 Apr 25 j 00:45	12°♂27'22	0°52'10
evening set	1318 Oct 22 j 02:27	16°♂18'43		max. Earth dist.	1324 Apr 27 j 05:19	12°♂58'27	6.01970 AU
max. Earth dist.	1318 Nov 01 j 16:53	18°♂40'02	6.35452 AU		1324 May 05 j 19:27	15°♂	
				morning rise	1324 May 08 j 18:10	15°♂41'28	
conjunction	1318 Nov 03 j 18:39	19°♂07'46	0°47'36		1324 Jul 16 j 09:35	0°♂	
minimum elong	1318 Nov 03 j 18:41	19°♂07'47	0°47'36	retrograde	1324 Sep 15 j 22:13	5°♂36'01	
morning rise	1318 Nov 16 j 09:18	21°♂56'12		min. Earth dist.	1324 Nov 13 j 01:53	0°♂42'28	4.07550 AU
	1318 Dec 24 j 13:45	0°♂		opposition	1324 Nov 14 j 11:26	0°♂31'01	0°-54'-35
retrograde	1319 Mar 18 j 22:53	9°♂27'52			1324 Nov 18 j 06:31	30°♂	
opposition	1319 May 18 j 21:13	4°♂35'43	0°48'13	direct	1325 Jan 11 j 21:54	25°♂32'41	
min. Earth dist.	1319 May 20 j 08:11	4°♂24'34	4.29680 AU		1325 Mar 06 j 17:40	0°♂	
	1319 Jul 04 j 04:22	30°♂		evening set	1325 May 18 j 07:27	14°♂34'18	
direct	1319 Jul 19 j 22:44	29°♂37'09					
	1319 Aug 04 j 17:00	0°♂		conjunction	1325 Jun 01 j 01:53	17°♂43'22	0°-18'-26
evening set	1319 Nov 22 j 11:02	17°♂49'46		minimum elong	1325 Jun 01 j 01:54	17°♂43'23	0°18'27
max. Earth dist.	1319 Dec 03 j 07:58	20°♂18'57	6.23055 AU	max. Earth dist.	1325 Jun 03 j 04:06	18°♂12'08	6.14155 AU
				morning rise	1325 Jun 14 j 20:50	20°♂52'27	
conjunction	1319 Dec 05 j 02:59	20°♂43'38	0°15'06		1325 Jul 27 j 07:01	0°♂	
minimum elong	1319 Dec 05 j 03:00	20°♂43'38	0°15'07	retrograde	1325 Oct 19 j 13:49	9°♂40'48	
behind sun begin	1319 Dec 04 j 23:56	20°♂41'54		asc. node	1325 Dec 06 j 15:45	6°♂10'09	
behind sun end	1319 Dec 05 j 06:03	20°♂45'23		min. Earth dist.	1325 Dec 17 j 02:59	4°♂46'40	4.21178 AU
morning rise	1319 Dec 17 j 18:23	23°♂37'32		opposition	1325 Dec 18 j 05:14	4°♂37'48	0°01'40
	1320 Jan 15 j 13:41	0°♂			1326 Jan 31 j 11:01	30°♂	
retrograde	1320 Apr 21 j 11:25	12°♂06'45		direct	1326 Feb 15 j 18:52	29°♂36'47	
desc. node	1320 May 09 j 01:25	11°♂37'52			1326 Mar 03 j 06:58	0°♂	
opposition	1320 Jun 21 j 07:42	7°♂12'51	0°-6'-18	evening set	1326 Jun 22 j 15:08	18°♂01'33	
min. Earth dist.	1320 Jun 22 j 09:30	7°♂04'33	4.16051 AU				
direct	1320 Aug 21 j 04:28	2°♂16'52		conjunction	1326 Jul 06 j 06:47	21°♂03'22	0°20'10
evening set	1320 Dec 24 j 08:03	21°♂04'54		minimum elong	1326 Jul 06 j 06:46	21°♂03'22	0°20'10
max. Earth dist.	1321 Jan 05 j 01:20	23°♂50'42	6.09379 AU	max. Earth dist.	1326 Jul 07 j 10:49	21°♂18'57	6.28133 AU
				morning rise	1326 Jul 19 j 21:22	24°♂04'21	
conjunction	1321 Jan 06 j 02:23	24°♂05'30	0°-23'-38		1326 Aug 16 j 14:03	0°♂	
minimum elong	1321 Jan 06 j 02:21	24°♂05'29	0°23'39				

retrograde	1326 Nov 20 j 05:39	11°♏49'09		minimum elong	1333 Jan 10 j 17:48	28°♎53'15	0°28'40
opposition	1327 Jan 19 j 02:30	6°♏49'41	0°53'57	max. Earth dist.	1333 Jan 09 j 20:53	28°♎40'50	6.07148 AU
min. Earth dist.	1327 Jan 18 j 16:45	6°♏52'55	4.34279 AU		1333 Jan 15 j 10:10	0°♊	
direct	1327 Mar 21 j 01:42	1°♏46'58		morning rise	1333 Jan 23 j 14:14	1°♊56'06	
	1327 Jul 03 j 22:15	15°♏			1333 Mar 25 j 17:11	15°♊	
evening set	1327 Jul 26 j 00:32	19°♏40'39		retrograde	1333 Jun 02 j 10:11	21°♊42'49	
				opposition	1333 Aug 01 j 19:12	16°♊45'15	-1°-8'-40
conjunction	1327 Aug 08 j 09:33	22°♏35'00	0°51'02	min. Earth dist.	1333 Aug 01 j 23:54	16°♊43'43	4.01470 AU
minimum elong	1327 Aug 08 j 09:31	22°♏34'58	0°51'02		1333 Aug 15 j 11:13	15°♊	
max. Earth dist.	1327 Aug 08 j 11:09	22°♏35'52	6.39342 AU	direct	1333 Sep 30 j 00:14	11°♊51'25	
morning rise	1327 Aug 21 j 15:52	25°♏27'57			1333 Nov 13 j 09:53	15°♊	
	1327 Sep 12 j 01:55	0°♐			1334 Jan 27 j 15:31	0°♋	
retrograde	1327 Dec 20 j 14:52	12°♐29'40		evening set	1334 Feb 02 j 04:50	1°♋19'43	
opposition	1328 Feb 18 j 20:49	7°♐33'50	1°28'21				
min. Earth dist.	1328 Feb 19 j 04:22	7°♐31'23	4.42903 AU	conjunction	1334 Feb 15 j 05:39	4°♋28'24	0°-58'-29
direct	1328 Apr 20 j 22:02	2°♐30'49		minimum elong	1334 Feb 15 j 05:37	4°♋28'23	0°58'30
evening set	1328 Aug 25 j 18:38	20°♐06'26		max. Earth dist.	1334 Feb 15 j 14:59	4°♋34'02	5.97461 AU
				morning rise	1334 Feb 28 j 09:21	7°♋38'42	
conjunction	1328 Sep 07 j 19:44	22°♐55'29	1°06'42	retrograde	1334 Jul 10 j 13:05	28°♋12'21	
minimum elong	1328 Sep 07 j 19:43	22°♐55'28	1°06'41	opposition	1334 Sep 08 j 12:57	23°♋10'48	-1°-39'-1
max. Earth dist.	1328 Sep 06 j 18:26	22°♐41'46	6.44672 AU	min. Earth dist.	1334 Sep 07 j 18:28	23°♋16'59	3.95597 AU
morning rise	1328 Sep 20 j 18:02	25°♐43'07		direct	1334 Nov 05 j 15:22	18°♋17'04	
	1328 Oct 11 j 01:00	0°♑			1335 Feb 04 j 13:55	0°♌	
retrograde	1329 Jan 18 j 20:39	12°♑28'57		evening set	1335 Mar 11 j 04:17	7°♌59'27	
opposition	1329 Mar 20 j 10:01	7°♑35'49	1°38'15				
min. Earth dist.	1329 Mar 21 j 10:49	7°♑27'51	4.44741 AU	conjunction	1335 Mar 24 j 13:04	11°♌12'27	-1°-6'-16
direct	1329 May 22 j 03:19	2°♑33'32		minimum elong	1335 Mar 24 j 13:04	11°♌12'28	1°06'17
evening set	1329 Sep 25 j 13:32	20°♑07'13		max. Earth dist.	1335 Mar 26 j 05:03	11°♌36'34	5.95888 AU
max. Earth dist.	1329 Oct 06 j 13:03	22°♑30'43	6.42790 AU	morning rise	1335 Apr 07 j 00:58	14°♌27'05	
					1335 Jun 20 j 07:43	0°♍	
conjunction	1329 Oct 08 j 08:42	22°♑54'34	1°04'10	retrograde	1335 Aug 17 j 04:56	5°♍00'59	
minimum elong	1329 Oct 08 j 08:43	22°♑54'35	1°04'10	opposition	1335 Oct 15 j 20:22	29°♌56'24	-1°-30'-2
morning rise	1329 Oct 21 j 01:20	25°♑40'48		min. Earth dist.	1335 Oct 14 j 12:17	0°♍07'19	3.98611 AU
	1329 Nov 10 j 07:36	0°♎			1335 Oct 15 j 09:47	30°♎	
retrograde	1330 Feb 18 j 18:56	12°♎39'05		direct	1335 Dec 12 j 18:07	25°♌00'38	
opposition	1330 Apr 20 j 15:29	7°♎47'09	1°21'52		1336 Feb 07 j 04:06	0°♍	
min. Earth dist.	1330 Apr 22 j 01:46	7°♎36'13	4.39299 AU	evening set	1336 Apr 16 j 17:38	14°♍29'58	
direct	1330 Jun 22 j 06:59	2°♎46'29			1336 Apr 18 j 20:49	15°♍	
	1330 Sep 30 j 07:16	15°♎					
evening set	1330 Oct 26 j 06:07	20°♎34'50		conjunction	1336 Apr 30 j 09:34	17°♍42'55	0°-48'-8
max. Earth dist.	1330 Nov 05 j 20:47	22°♎56'39	6.34162 AU	minimum elong	1336 Apr 30 j 09:37	17°♍42'56	0°48'08
				max. Earth dist.	1336 May 02 j 17:08	18°♍15'39	6.03130 AU
conjunction	1330 Nov 07 j 22:12	23°♎24'17	0°43'54	morning rise	1336 May 14 j 03:37	20°♍56'46	
minimum elong	1330 Nov 07 j 22:14	23°♎24'18	0°43'53		1336 Jun 23 j 21:54	0°♎	
morning rise	1330 Nov 20 j 12:35	26°♎13'10		retrograde	1336 Sep 20 j 21:12	10°♎43'23	
	1330 Dec 07 j 18:47	0°♏		min. Earth dist.	1336 Nov 18 j 00:12	5°♎50'08	4.09229 AU
retrograde	1331 Mar 23 j 10:36	13°♏51'03		opposition	1336 Nov 19 j 10:25	5°♎38'29	0°-46'-58
opposition	1331 Mar 23 j 09:06	8°♏58'47	0°41'36	direct	1337 Jan 16 j 23:06	0°♎39'44	
min. Earth dist.	1331 May 24 j 20:36	8°♏47'28	4.27937 AU	evening set	1337 May 23 j 11:36	19°♎36'15	
direct	1331 Jul 24 j 07:56	4°♏00'29					
evening set	1331 Nov 26 j 18:28	22°♏17'48		conjunction	1337 Jun 06 j 05:49	22°♎44'22	0°-12'-50
max. Earth dist.	1331 Dec 07 j 14:46	24°♏47'22	6.20991 AU	minimum elong	1337 Jun 06 j 05:50	22°♎44'23	0°12'51
				behind sun begin	1337 Jun 06 j 00:49	22°♎41'32	
conjunction	1331 Dec 09 j 10:28	25°♏12'33	0°10'01	behind sun end	1337 Jun 06 j 10:50	22°♎47'13	
minimum elong	1331 Dec 09 j 10:29	25°♏12'34	0°10'02	max. Earth dist.	1337 Jun 08 j 05:02	23°♎11'18	6.16170 AU
behind sun begin	1331 Dec 09 j 04:00	25°♏08'51		morning rise	1337 Jun 20 j 00:36	25°♎52'25	
behind sun end	1331 Dec 09 j 16:57	25°♏16'17			1337 Jul 08 j 14:04	0°♏	
morning rise	1331 Dec 22 j 02:29	28°♏07'32		asc. node	1337 Oct 15 j 04:27	14°♏22'31	
	1331 Dec 30 j 07:48	0°♐		retrograde	1337 Oct 24 j 04:44	14°♏30'37	
desc. node	1332 Mar 20 j 22:14	14°♐45'53		opposition	1337 Dec 22 j 20:55	9°♏27'58	0°09'50
retrograde	1332 Apr 26 j 07:46	16°♐46'40		min. Earth dist.	1337 Dec 21 j 20:48	9°♏36'07	4.23292 AU
opposition	1332 Jun 26 j 02:51	11°♐52'23	0°-14'-12	direct	1338 Feb 20 j 16:13	4°♏26'33	
min. Earth dist.	1332 Jun 27 j 02:52	11°♐44'38	4.13797 AU	evening set	1338 Jun 27 j 11:59	22°♏45'45	
direct	1332 Aug 25 j 18:34	6°♐56'37					
evening set	1332 Dec 28 j 22:39	25°♐51'24		conjunction	1338 Jul 11 j 03:00	25°♏46'24	0°25'17
				minimum elong	1338 Jul 11 j 02:59	25°♏46'23	0°25'16
conjunction	1333 Jan 10 j 17:49	28°♐53'16	0°-28'-39	max. Earth dist.	1338 Jul 12 j 04:55	26°♏00'45	6.30158 AU

morning rise	1338 Jul 24 j 16:21	28° $\overline{54}$ 6'02		opposition	1344 Jul 01 j 04:49	16° $\overline{34}$ 9'29	0°-22'-31
	1338 Jul 30 j 07:40	0° $\overline{0}$		min. Earth dist.	1344 Jul 02 j 03:18	16° $\overline{34}$ 2'13	4.11682 AU
	1338 Oct 26 j 00:29	15° $\overline{0}$		direct	1344 Aug 30 j 15:45	11° $\overline{35}$ 4'05	
retrograde	1338 Nov 24 j 13:55	16° $\overline{0}$ 22'34			1344 Dec 29 j 22:51	0° \approx	
	1338 Dec 23 j 23:29	15° \overline{R} $\overline{0}$		evening set	1345 Jan 02 j 19:48	0° \approx 54'49	
opposition	1339 Jan 23 j 12:29	11° $\overline{0}$ 23'39	1°00'09				
min. Earth dist.	1339 Jan 23 j 04:32	11° $\overline{0}$ 26'17	4.36044 AU	conjunction	1345 Jan 15 j 15:32	3° \approx 57'47	0°-33'-47
direct	1339 Mar 25 j 15:34	6° $\overline{0}$ 20'51		minimum elong	1345 Jan 15 j 15:30	3° \approx 57'46	0°33'47
	1339 Jun 15 j 09:51	15° $\overline{0}$		max. Earth dist.	1345 Jan 14 j 21:24	3° \approx 46'59	6.05283 AU
evening set	1339 Jul 30 j 14:34	24° $\overline{0}$ 10'24		morning rise	1345 Jan 28 j 13:01	7° \approx 01'52	
					1345 Mar 04 j 13:18	15° \approx	
conjunction	1339 Aug 12 j 22:15	27° $\overline{0}$ 03'42	0°54'17	retrograde	1345 Jun 07 j 18:08	26° \approx 57'37	
minimum elong	1339 Aug 12 j 22:13	27° $\overline{0}$ 03'41	0°54'17	opposition	1345 Aug 07 j 03:04	21° \approx 59'29	-1°-14'-58
max. Earth dist.	1339 Aug 12 j 18:21	27° $\overline{0}$ 01'35	6.40689 AU	min. Earth dist.	1345 Aug 07 j 03:17	21° \approx 59'25	4.00081 AU
morning rise	1339 Aug 26 j 03:29	29° $\overline{0}$ 55'38		direct	1345 Oct 05 j 02:40	17° \approx 05'50	
	1339 Aug 26 j 11:35	0° $\overline{0}$			1346 Jan 09 j 23:15	0° \overline{H}	
retrograde	1339 Dec 24 j 21:54	16° $\overline{0}$ 52'52		evening set	1346 Feb 07 j 09:03	6° \overline{H} 37'49	
opposition	1340 Feb 23 j 04:12	11° $\overline{0}$ 57'32	1°31'18				
min. Earth dist.	1340 Feb 23 j 15:21	11° $\overline{0}$ 53'54	4.43764 AU	conjunction	1346 Feb 20 j 10:58	9° \overline{H} 47'20	-1°-1'-9
direct	1340 Apr 25 j 09:35	6° $\overline{0}$ 54'30		minimum elong	1346 Feb 20 j 10:57	9° \overline{H} 47'19	1°01'10
evening set	1340 Aug 30 j 03:42	24° $\overline{0}$ 28'26		max. Earth dist.	1346 Feb 21 j 02:12	9° \overline{H} 56'32	5.96693 AU
max. Earth dist.	1340 Sep 11 j 00:01	27° $\overline{0}$ 01'52	6.44968 AU	morning rise	1346 Mar 05 j 15:42	12° \overline{H} 58'27	
					1346 May 28 j 11:38	0° \overline{Y}	
conjunction	1340 Sep 12 j 03:58	27° $\overline{0}$ 16'59	1°07'27	retrograde	1346 Jul 16 j 00:07	3° \overline{Y} 35'10	
minimum elong	1340 Sep 12 j 03:57	27° $\overline{0}$ 16'59	1°07'27		1346 Sep 02 j 23:09	30° \overline{R} \overline{H}	
	1340 Sep 24 j 17:31	0° $\overline{0}$		opposition	1346 Sep 13 j 21:53	28° \overline{H} 33'02	-1°-40'-13
morning rise	1340 Sep 25 j 01:09	0° $\overline{0}$ 04'07		min. Earth dist.	1346 Sep 13 j 01:14	28° \overline{H} 39'58	3.95566 AU
retrograde	1341 Jan 23 j 02:15	16° $\overline{0}$ 49'41		direct	1346 Nov 10 j 23:32	23° \overline{H} 39'06	
opposition	1341 Mar 24 j 17:47	11° $\overline{0}$ 56'49	1°37'29		1347 Jan 14 j 01:11	0° \overline{Y}	
min. Earth dist.	1341 Mar 25 j 19:45	11° $\overline{0}$ 48'30	4.44479 AU	evening set	1347 Mar 16 j 12:14	13° \overline{Y} 20'37	
direct	1341 May 26 j 10:57	6° $\overline{0}$ 54'42					
evening set	1341 Sep 29 j 20:49	24° $\overline{0}$ 29'24		conjunction	1347 Mar 29 j 22:09	16° \overline{Y} 33'49	-1°-5'-10
max. Earth dist.	1341 Oct 10 j 18:01	26° $\overline{0}$ 51'58	6.41980 AU	minimum elong	1347 Mar 29 j 22:10	16° \overline{Y} 33'50	1°05'12
				max. Earth dist.	1347 Mar 31 j 18:48	17° \overline{Y} 00'39	5.96592 AU
conjunction	1341 Oct 12 j 15:19	27° $\overline{0}$ 16'48	1°02'18	morning rise	1347 Apr 12 j 11:05	19° \overline{Y} 48'33	
minimum elong	1341 Oct 12 j 15:20	27° $\overline{0}$ 16'49	1°02'19		1347 May 27 j 18:36	0° $\overline{8}$	
morning rise	1341 Oct 25 j 07:26	0° $\overline{0}$ 03'10		retrograde	1347 Aug 22 j 08:59	10° $\overline{8}$ 17'07	
	1341 Oct 25 j 01:37	0° $\overline{0}$		min. Earth dist.	1347 Oct 19 j 14:26	5° $\overline{8}$ 23'45	3.99980 AU
	1342 Jan 17 j 00:00	15° $\overline{0}$		opposition	1347 Oct 21 j 00:06	5° $\overline{8}$ 12'18	-1°-25'-35
retrograde	1342 Feb 23 j 06:58	17° $\overline{0}$ 05'26		direct	1347 Dec 17 j 22:21	0° $\overline{8}$ 16'08	
	1342 Apr 01 j 21:26	15° \overline{R} $\overline{0}$			1348 Apr 01 j 14:57	15° $\overline{8}$	
opposition	1342 Apr 25 j 03:24	12° $\overline{0}$ 13'36	1°17'29	evening set	1348 Apr 21 j 23:52	19° $\overline{8}$ 40'31	
min. Earth dist.	1342 Apr 26 j 15:29	12° $\overline{0}$ 02'07	4.37978 AU				
direct	1342 Jun 26 j 18:25	7° $\overline{0}$ 13'13		conjunction	1348 May 05 j 16:15	22° $\overline{8}$ 52'50	0°-43'-51
	1342 Sep 11 j 15:20	15° $\overline{0}$		minimum elong	1348 May 05 j 16:18	22° $\overline{8}$ 52'51	0°43'52
evening set	1342 Oct 30 j 14:52	25° $\overline{0}$ 05'03		max. Earth dist.	1348 May 07 j 22:42	23° $\overline{8}$ 24'45	6.05009 AU
max. Earth dist.	1342 Nov 10 j 03:52	27° $\overline{0}$ 16'35	6.32425 AU	morning rise	1348 May 19 j 10:51	26° $\overline{8}$ 05'59	
					1348 Jun 05 j 11:44	0° \overline{II}	
conjunction	1342 Nov 12 j 06:44	27° $\overline{0}$ 15'58	0°39'46	retrograde	1348 Sep 25 j 15:44	15° \overline{II} 42'17	
minimum elong	1342 Nov 12 j 06:46	27° $\overline{0}$ 15'59	0°39'46	min. Earth dist.	1348 Nov 22 j 20:45	10° \overline{II} 48'51	4.11391 AU
	1342 Nov 21 j 13:14	0° \overline{H}		opposition	1348 Nov 24 j 06:03	10° \overline{II} 37'30	0°-39'-16
morning rise	1342 Nov 24 j 21:16	0° \overline{H} 44'45		direct	1349 Jan 21 j 23:27	5° \overline{II} 38'15	
retrograde	1343 Mar 28 j 04:53	18° \overline{H} 30'31		evening set	1349 May 28 j 11:29	24° \overline{II} 28'18	
opposition	1343 May 28 j 03:24	13° \overline{H} 38'02	0°34'20				
min. Earth dist.	1343 May 29 j 13:28	13° \overline{H} 27'09	4.25893 AU	conjunction	1349 Jun 11 j 05:41	27° \overline{II} 35'22	0°-7'-22
direct	1343 Jul 28 j 21:38	8° \overline{H} 40'03		minimum elong	1349 Jun 11 j 05:41	27° \overline{II} 35'22	0°07'22
evening set	1343 Dec 01 j 08:12	27° \overline{H} 02'57		behind sun begin	1349 Jun 10 j 22:05	27° \overline{II} 31'04	
max. Earth dist.	1343 Dec 12 j 08:15	29° \overline{H} 35'21	6.18825 AU	behind sun end	1349 Jun 11 j 13:18	27° \overline{II} 39'39	
				max. Earth dist.	1349 Jun 13 j 03:24	28° \overline{II} 01'18	6.18444 AU
conjunction	1343 Dec 14 j 00:37	29° \overline{H} 58'44	0°04'35		1349 Jun 21 j 21:01	0° $\overline{0}$	
minimum elong	1343 Dec 14 j 00:37	29° \overline{H} 58'44	0°04'35	morning rise	1349 Jun 24 j 23:48	0° $\overline{0}$ 42'07	
behind sun begin	1343 Dec 13 j 16:47	29° \overline{H} 54'13		asc. node	1349 Aug 25 j 03:47	13° $\overline{0}$ 08'40	
behind sun end	1343 Dec 14 j 08:26	0° $\overline{0}$ 03'14		retrograde	1349 Oct 28 j 16:23	19° $\overline{0}$ 09'58	
	1343 Dec 14 j 02:47	0° $\overline{0}$		min. Earth dist.	1349 Dec 26 j 11:01	14° $\overline{0}$ 15'12	4.25450 AU
morning rise	1343 Dec 26 j 16:57	2° $\overline{0}$ 54'48		opposition	1349 Dec 27 j 08:55	14° $\overline{0}$ 07'50	0°17'37
desc. node	1344 Jan 29 j 01:29	10° $\overline{0}$ 18'34		direct	1350 Feb 25 j 08:54	9° $\overline{0}$ 06'09	
retrograde	1344 May 01 j 11:59	21° $\overline{0}$ 44'06		evening set	1350 Jul 02 j 04:53	27° $\overline{0}$ 19'53	

	1350 Jul 14 j 07:49	0°♈		behind sun begin	1355 Dec 18 j 08:18	4°♊44'19	
				behind sun end	1355 Dec 19 j 00:19	4°♊53'35	
conjunction	1350 Jul 15 j 18:53	0°♈19'21	0°30'04	morning rise	1355 Dec 31 j 09:19	7°♊46'09	
minimum elong	1350 Jul 15 j 18:51	0°♈19'20	0°30'03	retrograde	1356 May 06 j 15:27	26°♊45'15	
max. Earth dist.	1350 Jul 16 j 15:12	0°♈30'33	6.32022 AU	opposition	1356 Jul 06 j 08:26	21°♊50'11	0°-30'-47
morning rise	1350 Jul 29 j 07:20	3°♈17'47		min. Earth dist.	1356 Jul 07 j 02:50	21°♊44'13	4.09841 AU
	1350 Sep 26 j 07:40	15°♈		direct	1356 Sep 04 j 13:15	16°♊55'10	
retrograde	1350 Nov 28 j 20:01	20°♈47'08			1356 Dec 12 j 16:43	0°♊	
opposition	1351 Jan 27 j 19:27	15°♈48'44	1°05'48	evening set	1357 Jan 07 j 18:02	6°♊00'41	
min. Earth dist.	1351 Jan 27 j 14:47	15°♈50'17	4.37496 AU				
	1351 Feb 02 j 23:23	15°♈		conjunction	1357 Jan 20 j 14:28	9°♊04'35	0°-38'-41
direct	1351 Mar 30 j 02:46	10°♈45'47		minimum elong	1357 Jan 20 j 14:26	9°♊04'34	0°38'41
	1351 May 24 j 02:49	15°♈		max. Earth dist.	1357 Jan 20 j 01:53	8°♊57'04	6.03829 AU
evening set	1351 Aug 04 j 01:21	28°♈32'21		morning rise	1357 Feb 02 j 12:42	12°♊09'39	
	1351 Aug 10 j 19:38	0°♈			1357 Feb 14 j 14:20	15°♊	
					1357 May 06 j 07:10	0°♈	
conjunction	1351 Aug 17 j 08:09	1°♈24'53	0°57'08	retrograde	1357 Jun 13 j 04:06	2°♈12'39	
minimum elong	1351 Aug 17 j 08:07	1°♈24'52	0°57'08		1357 Jul 21 j 03:33	30°♈	
max. Earth dist.	1351 Aug 17 j 01:20	1°♈21'11	6.41626 AU	opposition	1357 Aug 12 j 10:56	27°♈13'57	-1°-20'-39
morning rise	1351 Aug 30 j 12:03	4°♈15'57		min. Earth dist.	1357 Aug 12 j 08:32	27°♈14'45	3.99162 AU
retrograde	1351 Dec 29 j 01:56	21°♈10'18		direct	1357 Oct 10 j 07:58	22°♈20'24	
opposition	1352 Feb 27 j 09:45	16°♈15'26	1°33'43		1357 Dec 20 j 21:12	0°♈	
min. Earth dist.	1352 Feb 27 j 22:55	16°♈11'09	4.44149 AU	evening set	1358 Feb 12 j 13:02	11°♈54'20	
direct	1352 Apr 29 j 16:42	11°♈12'31					
evening set	1352 Sep 03 j 11:08	28°♈46'14		conjunction	1358 Feb 25 j 15:57	15°♈04'26	-1°-3'-19
	1352 Sep 09 j 03:58	0°♈		minimum elong	1358 Feb 25 j 15:56	15°♈04'26	1°03'19
max. Earth dist.	1352 Sep 15 j 02:01	1°♈16'56	6.44761 AU	max. Earth dist.	1358 Feb 26 j 12:06	15°♈16'37	5.96377 AU
				morning rise	1358 Mar 10 j 21:47	18°♈16'11	
conjunction	1352 Sep 16 j 10:21	1°♈34'28	1°07'50		1358 May 02 j 12:31	0°♈	
minimum elong	1352 Sep 16 j 10:20	1°♈34'28	1°07'50	retrograde	1358 Jul 21 j 07:42	8°♈53'47	
morning rise	1352 Sep 29 j 06:51	4°♈21'24		min. Earth dist.	1358 Sep 18 j 05:05	3°♈59'05	3.95917 AU
retrograde	1353 Jan 27 j 10:47	21°♈08'30		opposition	1358 Sep 19 j 04:34	3°♈51'11	-1°-40'-34
opposition	1353 Mar 29 j 01:47	16°♈15'56	1°36'13		1358 Oct 22 j 07:41	30°♈	
min. Earth dist.	1353 Mar 30 j 06:33	16°♈06'43	4.43709 AU	direct	1358 Nov 16 j 03:43	28°♈57'06	
direct	1353 May 30 j 19:59	11°♈14'01			1358 Dec 11 j 00:06	0°♈	
evening set	1353 Oct 04 j 03:53	28°♈51'10		evening set	1359 Mar 21 j 18:23	18°♈36'45	
	1353 Oct 09 j 09:51	0°♈					
max. Earth dist.	1353 Oct 14 j 23:21	1°♈13'15	6.40703 AU	conjunction	1359 Apr 04 j 05:11	21°♈49'57	-1°-3'-34
				minimum elong	1359 Apr 04 j 05:13	21°♈49'58	1°03'35
conjunction	1353 Oct 16 j 21:59	1°♈38'54	1°00'06	max. Earth dist.	1359 Apr 06 j 03:00	22°♈17'25	5.97538 AU
minimum elong	1353 Oct 16 j 22:01	1°♈38'55	1°00'06	morning rise	1359 Apr 17 j 19:11	25°♈04'40	
morning rise	1353 Oct 29 j 13:39	4°♈25'37			1359 May 08 j 22:07	0°♈	
	1353 Dec 21 j 03:35	15°♈			1359 Aug 10 j 19:11	15°♈	
retrograde	1354 Feb 27 j 18:59	21°♈33'28		retrograde	1359 Aug 27 j 09:23	15°♈27'19	
opposition	1354 Apr 29 j 16:24	16°♈41'41	1°12'39		1359 Sep 12 j 22:22	15°♈	
min. Earth dist.	1354 May 01 j 03:50	16°♈30'24	4.36288 AU	min. Earth dist.	1359 Oct 24 j 14:45	10°♈34'01	4.01412 AU
	1354 May 13 j 06:13	15°♈		opposition	1359 Oct 26 j 01:05	10°♈22'19	-1°-20'-34
direct	1354 Jul 01 j 03:49	11°♈41'40		direct	1359 Dec 23 j 01:28	5°♈25'44	
	1354 Aug 18 j 09:30	15°♈			1360 Mar 13 j 20:26	15°♈	
evening set	1354 Nov 04 j 00:57	29°♈38'08		evening set	1360 Apr 27 j 03:30	24°♈45'24	
	1354 Nov 05 j 16:02	0°♈					
max. Earth dist.	1354 Nov 14 j 15:21	2°♈01'06	6.30467 AU	conjunction	1360 May 10 j 20:35	27°♈57'10	0°-39'-20
				minimum elong	1360 May 10 j 20:38	27°♈57'11	0°39'21
conjunction	1354 Nov 16 j 16:43	2°♈28'57	0°35'22	max. Earth dist.	1360 May 13 j 03:44	28°♈29'21	6.06809 AU
minimum elong	1354 Nov 16 j 16:45	2°♈28'58	0°35'22		1360 May 19 j 15:19	0°♈	
morning rise	1354 Nov 29 j 07:19	5°♈19'26		morning rise	1360 May 24 j 15:17	1°♈09'33	
retrograde	1355 Apr 02 j 03:11	23°♈13'53		retrograde	1360 Sep 30 j 10:14	20°♈36'20	
opposition	1355 Jun 01 j 23:55	18°♈21'16	0°26'45	opposition	1360 Nov 28 j 23:28	15°♈31'50	0°-31'-27
min. Earth dist.	1355 Jun 03 j 09:30	18°♈10'31	4.23788 AU	min. Earth dist.	1360 Nov 27 j 15:52	15°♈42'35	4.13359 AU
direct	1355 Aug 02 j 14:45	13°♈23'43		direct	1361 Jan 26 j 21:02	10°♈32'14	
	1355 Nov 27 j 19:51	0°♈		evening set	1361 Jun 02 j 09:58	29°♈16'55	
evening set	1355 Dec 05 j 23:37	1°♈52'10			1361 Jun 05 j 14:32	0°♈	
desc. node	1355 Dec 08 j 00:53	2°♈20'38					
max. Earth dist.	1355 Dec 17 j 01:58	4°♈26'39	6.16762 AU	conjunction	1361 Jun 16 j 03:47	2°♈22'58	0°-1'-54
				minimum elong	1361 Jun 16 j 03:46	2°♈22'58	0°01'55
conjunction	1355 Dec 18 j 16:18	4°♈48'57	0°-1'-4	behind sun begin	1361 Jun 15 j 19:23	2°♈18'15	
minimum elong	1355 Dec 18 j 16:18	4°♈48'57	0°01'05	behind sun end	1361 Jun 16 j 12:08	2°♈27'40	

max. Earth dist.	1361 Jun 17 j 21:45	2° $\overline{5}$ 46'41	6.20409 AU	max. Earth dist.	1367 Dec 21 j 21:24	9° $\overline{3}$ 18'04	6.15163 AU
morning rise	1361 Jun 29 j 21:29	5° $\overline{5}$ 28'39		conjunction	1367 Dec 23 j 07:55	9° $\overline{3}$ 38'14	0°-6'-35
asc. node	1361 Jul 05 j 06:54	6° $\overline{5}$ 40'51		minimum elong	1367 Dec 23 j 07:54	9° $\overline{3}$ 38'14	0°06'35
retrograde	1361 Nov 02 j 01:44	23° $\overline{5}$ 47'32		behind sun begin	1367 Dec 23 j 00:24	9° $\overline{3}$ 33'52	
opposition	1361 Dec 31 j 19:42	18° $\overline{5}$ 45'51	0°25'12	behind sun end	1367 Dec 23 j 15:25	9° $\overline{3}$ 42'36	
min. Earth dist.	1361 Dec 30 j 23:49	18° $\overline{5}$ 52'32	4.27256 AU	morning rise	1368 Jan 05 j 01:23	12° $\overline{3}$ 36'19	
direct	1362 Mar 01 j 23:24	13° $\overline{5}$ 43'53			1368 Apr 08 j 06:45	0° \approx	
	1362 Jun 28 j 03:54	0° $\overline{0}$		retrograde	1368 May 11 j 19:08	1° \approx 43'21	
evening set	1362 Jul 06 j 21:02	1° $\overline{0}$ 53'30			1368 Jun 14 j 10:18	30° \overline{R} $\overline{3}$	
conjunction	1362 Jul 20 j 10:15	4° $\overline{0}$ 51'59	0°34'38	opposition	1368 Jul 11 j 10:51	26° $\overline{3}$ 47'48	0°-38'-41
minimum elong	1362 Jul 20 j 10:13	4° $\overline{0}$ 51'58	0°34'39	min. Earth dist.	1368 Jul 12 j 03:10	26° $\overline{3}$ 42'30	4.08481 AU
max. Earth dist.	1362 Jul 21 j 03:07	5° $\overline{0}$ 01'16	6.33539 AU	direct	1368 Sep 09 j 12:42	21° $\overline{3}$ 53'02	
morning rise	1362 Aug 02 j 21:31	7° $\overline{0}$ 49'19			1368 Nov 23 j 13:59	0° \approx	
	1362 Sep 06 j 03:49	15° $\overline{0}$		evening set	1369 Jan 12 j 14:41	11° \approx 01'36	
retrograde	1362 Dec 03 j 03:02	25° $\overline{0}$ 12'47		conjunction	1369 Jan 25 j 11:49	14° \approx 06'13	0°-43'-9
opposition	1363 Feb 01 j 02:43	20° $\overline{0}$ 14'56	1°11'05	minimum elong	1369 Jan 25 j 11:46	14° \approx 06'12	0°43'11
min. Earth dist.	1363 Feb 01 j 00:51	20° $\overline{0}$ 15'33	4.38626 AU	max. Earth dist.	1369 Jan 25 j 03:36	14° \approx 01'18	6.02831 AU
direct	1363 Apr 03 j 13:51	15° $\overline{0}$ 11'55			1369 Jan 29 j 05:39	15° \approx	
	1363 Jul 25 j 16:45	0° $\overline{0}$		morning rise	1369 Feb 07 j 10:54	17° \approx 12'06	
evening set	1363 Aug 08 j 12:29	2° $\overline{0}$ 56'22			1369 Apr 07 j 10:13	0° \overline{K}	
conjunction	1363 Aug 21 j 18:06	5° $\overline{0}$ 48'11	0°59'42	retrograde	1369 Jun 18 j 09:35	7° \overline{K} 20'15	
minimum elong	1363 Aug 21 j 18:04	5° $\overline{0}$ 48'10	0°59'41	opposition	1369 Aug 17 j 15:40	2° \overline{K} 21'01	-1°-25'-30
max. Earth dist.	1363 Aug 21 j 06:16	5° $\overline{0}$ 41'46	6.42265 AU	min. Earth dist.	1369 Aug 17 j 09:48	2° \overline{K} 22'57	3.98658 AU
morning rise	1363 Sep 03 j 21:02	8° $\overline{0}$ 38'35			1369 Sep 05 j 04:49	30° \overline{R} \approx	
retrograde	1364 Jan 02 j 08:15	25° $\overline{0}$ 30'58		direct	1369 Oct 15 j 08:26	27° \approx 27'31	
opposition	1364 Mar 02 j 16:34	20° $\overline{0}$ 36'27	1°35'39		1369 Nov 23 j 20:39	0° \overline{K}	
min. Earth dist.	1364 Mar 03 j 08:27	20° $\overline{0}$ 31'18	4.44296 AU	evening set	1370 Feb 17 j 14:03	17° \overline{K} 02'04	
direct	1364 May 04 j 01:40	15° $\overline{0}$ 33'35		conjunction	1370 Mar 02 j 17:48	20° \overline{K} 12'34	-1°-4'-53
	1364 Aug 24 j 02:19	0° $\overline{0}$		minimum elong	1370 Mar 02 j 17:47	20° \overline{K} 12'33	1°04'54
evening set	1364 Sep 07 j 19:28	3° $\overline{0}$ 07'33		max. Earth dist.	1370 Mar 03 j 16:43	20° \overline{K} 26'25	5.96383 AU
max. Earth dist.	1364 Sep 19 j 08:26	5° $\overline{0}$ 37'24	6.44405 AU	morning rise	1370 Mar 16 j 00:46	23° \overline{K} 24'46	
conjunction	1364 Sep 20 j 17:59	5° $\overline{0}$ 55'37	1°07'50		1370 Apr 13 j 07:14	0° \overline{Y}	
minimum elong	1364 Sep 20 j 17:59	5° $\overline{0}$ 55'37	1°07'51	retrograde	1370 Jul 26 j 09:53	14° \overline{Y} 02'00	
morning rise	1364 Oct 03 j 13:30	8° $\overline{0}$ 42'20		min. Earth dist.	1370 Sep 23 j 05:41	9° \overline{Y} 07'31	3.96441 AU
retrograde	1365 Jan 31 j 18:32	25° $\overline{0}$ 31'18		opposition	1370 Sep 24 j 07:05	8° \overline{Y} 58'56	-1°-40'-4
opposition	1365 Apr 02 j 11:03	20° $\overline{0}$ 38'56	1°34'25	direct	1370 Nov 21 j 05:42	4° \overline{Y} 04'34	
min. Earth dist.	1365 Apr 03 j 16:24	20° $\overline{0}$ 29'33	4.42898 AU	evening set	1371 Mar 26 j 20:40	23° \overline{Y} 42'01	
direct	1365 Jun 04 j 04:09	15° $\overline{0}$ 37'18		conjunction	1371 Apr 09 j 08:38	26° \overline{Y} 55'14	-1°-1'-31
	1365 Sep 23 j 06:50	0° $\overline{0}$		minimum elong	1371 Apr 09 j 08:40	26° \overline{Y} 55'16	1°01'32
evening set	1365 Oct 08 j 12:15	3° $\overline{0}$ 16'45		max. Earth dist.	1371 Apr 11 j 09:28	27° \overline{Y} 24'25	5.98536 AU
max. Earth dist.	1365 Oct 19 j 05:37	5° $\overline{0}$ 138'11	6.39505 AU	morning rise	1371 Apr 22 j 23:21	0° $\overline{8}$ 09'51	
conjunction	1365 Oct 21 j 05:44	6° $\overline{0}$ 04'44	0°57'32		1371 Apr 22 j 06:44	0° $\overline{8}$	
minimum elong	1365 Oct 21 j 05:45	6° $\overline{0}$ 04'45	0°57'32		1371 Jul 02 j 18:34	15° $\overline{8}$	
morning rise	1365 Nov 02 j 21:11	8° $\overline{0}$ 151'49		retrograde	1371 Sep 01 j 08:06	20° $\overline{8}$ 26'28	
	1365 Dec 01 j 18:13	15° $\overline{0}$		opposition	1371 Oct 30 j 21:52	15° $\overline{8}$ 21'28	-1°-15'-8
retrograde	1366 Mar 04 j 10:44	26° $\overline{0}$ 04'57		min. Earth dist.	1371 Oct 29 j 12:16	15° $\overline{8}$ 32'55	4.02765 AU
opposition	1366 May 04 j 07:08	21° $\overline{0}$ 13'08	1°07'19		1371 Nov 02 j 12:53	15° \overline{R} $\overline{8}$	
min. Earth dist.	1366 May 05 j 19:19	21° $\overline{0}$ 01'36	4.34781 AU	direct	1371 Dec 28 j 00:42	10° $\overline{8}$ 24'30	
direct	1366 Jul 05 j 17:19	16° $\overline{0}$ 13'27			1372 Feb 20 j 07:01	15° $\overline{8}$	
	1366 Oct 20 j 06:40	0° $\overline{0}$		evening set	1372 May 02 j 03:48	29° $\overline{8}$ 40'12	
evening set	1366 Nov 08 j 11:33	4° $\overline{0}$ 13'32			1372 May 03 j 14:02	0° \overline{II}	
max. Earth dist.	1366 Nov 19 j 03:21	6° $\overline{0}$ 137'50	6.28795 AU	conjunction	1372 May 15 j 21:15	2° \overline{II} 51'27	0°-34'-42
conjunction	1366 Nov 21 j 03:21	7° $\overline{0}$ 105'01	0°30'44	minimum elong	1372 May 15 j 21:18	2° \overline{II} 51'28	0°34'42
minimum elong	1366 Nov 21 j 03:23	7° $\overline{0}$ 105'02	0°30'44	max. Earth dist.	1372 May 18 j 02:39	3° \overline{II} 22'29	6.08392 AU
morning rise	1366 Dec 03 j 18:02	9° $\overline{0}$ 156'13		morning rise	1372 May 29 j 16:22	6° \overline{II} 03'15	
retrograde	1367 Apr 06 j 22:49	27° $\overline{0}$ 158'16		retrograde	1372 Oct 04 j 23:21	25° \overline{II} 21'39	
opposition	1367 Jun 06 j 20:46	23° $\overline{0}$ 105'21	0°19'00	min. Earth dist.	1372 Dec 02 j 06:45	20° \overline{II} 27'58	4.15016 AU
min. Earth dist.	1367 Jun 08 j 03:33	22° $\overline{0}$ 155'30	4.22075 AU	opposition	1372 Dec 03 j 13:37	20° \overline{II} 17'28	0°-23'-44
direct	1367 Aug 07 j 06:25	18° $\overline{0}$ 108'13		direct	1373 Jan 31 j 13:46	15° \overline{II} 17'31	
desc. node	1367 Oct 17 j 21:19	25° $\overline{0}$ 17'41		asc. node	1373 May 16 j 17:01	29° \overline{II} 14'24	
	1367 Nov 10 j 17:35	0° $\overline{0}$			1373 May 20 j 05:43	0° $\overline{5}$	
evening set	1367 Dec 10 j 15:00	6° $\overline{0}$ 140'41		evening set	1373 Jun 07 j 05:35	3° $\overline{5}$ 58'15	

conjunction	1373 Jun 20 j 23:08	7°  03'28	0°03'30			1379 May 24 j 17:22	30° 	
minimum elong	1373 Jun 20 j 23:08	7°  03'29	0°03'29	opposition		1379 Jun 11 j 16:32	27°  47'20	0°11'07
behind sun begin	1373 Jun 20 j 14:52	6°  58'50		min. Earth dist.		1379 Jun 12 j 22:39	27°  37'40	4.20280 AU
behind sun end	1373 Jun 21 j 07:25	7°  08'07		direct		1379 Aug 11 j 23:32	22°  50'29	
max. Earth dist.	1373 Jun 22 j 13:46	7°  25'14	6.22031 AU	desc. node		1379 Aug 27 j 23:28	23°  14'41	
morning rise	1373 Jul 04 j 16:16	10°  08'14				1379 Oct 22 j 07:53	0° 	
retrograde	1373 Nov 06 j 11:55	28°  19'48		evening set		1379 Dec 15 j 05:08	11°  27'30	
opposition	1374 Jan 05 j 05:03	23°  18'40	0°32'24					
min. Earth dist.	1374 Jan 04 j 12:08	23°  24'21	4.28704 AU	conjunction		1379 Dec 27 j 22:34	14°  26'00	0°-12'00
direct	1374 Mar 06 j 13:22	18°  16'34		minimum elong		1379 Dec 27 j 22:33	14°  25'59	0°12'01
	1374 Jun 11 j 05:53	0° 		behind sun begin		1379 Dec 27 j 16:58	14°  22'44	
evening set	1374 Jul 11 j 11:42	6°  23'17		behind sun end		1379 Dec 28 j 04:09	14°  29'15	
				max. Earth dist.		1379 Dec 26 j 15:01	14°  07'31	6.13367 AU
conjunction	1374 Jul 25 j 00:03	9°  20'56	0°38'54	morning rise		1380 Jan 09 j 16:36	17°  25'06	
minimum elong	1374 Jul 25 j 00:01	9°  20'55	0°38'54			1380 Mar 09 j 03:42	0° 	
max. Earth dist.	1374 Jul 25 j 13:12	9°  28'08	6.34711 AU	retrograde		1380 May 16 j 21:31	6°  41'01	
morning rise	1374 Aug 07 j 10:20	12°  21'723		opposition		1380 Jul 16 j 12:33	1°  45'02	0°-46'-21
	1374 Aug 20 j 00:05	15° 		min. Earth dist.		1380 Jul 17 j 01:55	1°  40'41	4.06842 AU
retrograde	1374 Dec 07 j 07:57	29°  23'6'14				1380 Jul 30 j 06:57	30° 	
opposition	1375 Feb 05 j 09:18	24°  23'52	1°15'52	direct		1380 Sep 14 j 09:00	26°  50'32	
min. Earth dist.	1375 Feb 05 j 09:14	24°  23'54	4.39478 AU			1380 Oct 29 j 07:43	0° 	
direct	1375 Apr 07 j 22:54	19°  23'51				1381 Jan 13 j 00:35	15° 	
	1375 Jul 08 j 11:02	0° 		evening set		1381 Jan 17 j 11:35	16°  03'31	
evening set	1375 Aug 12 j 22:56	7°  23'17						
				conjunction		1381 Jan 30 j 09:22	19°  09'02	0°-47'-22
conjunction	1375 Aug 26 j 03:35	10°  23'13	1°01'51	minimum elong		1381 Jan 30 j 09:19	19°  09'01	0°47'23
minimum elong	1375 Aug 26 j 03:33	10°  23'12	1°01'51	max. Earth dist.		1381 Jan 30 j 04:20	19°  06'01	6.01484 AU
max. Earth dist.	1375 Aug 25 j 13:25	10°  23'32	6.42745 AU	morning rise		1381 Feb 12 j 09:29	22°  15'57	
morning rise	1375 Sep 08 j 05:21	13°  23'00'00				1381 Mar 18 j 01:43	0° 	
retrograde	1376 Jan 06 j 14:11	29°  23'50'54		retrograde		1381 Jun 23 j 15:53	12°  30'50	
opposition	1376 Mar 06 j 23:19	24°  23'56'48	1°36'59	opposition		1381 Aug 22 j 20:52	7°  30'59	-1°-29'-49
min. Earth dist.	1376 Mar 07 j 17:05	24°  23'51'03	4.44388 AU	min. Earth dist.		1381 Aug 22 j 12:06	7°  33'53	3.97748 AU
direct	1376 May 08 j 10:19	19°  23'54'07		direct		1381 Oct 20 j 10:12	2°  37'25	
	1376 Aug 06 j 19:56	0° 		evening set		1382 Feb 22 j 16:53	22°  37'24	
evening set	1376 Sep 12 j 03:11	7°  28'11						
max. Earth dist.	1376 Sep 23 j 11:49	9°  25'57	6.44081 AU	conjunction		1382 Mar 07 j 21:56	25°  37'25'37	-1°-6'00
				minimum elong		1382 Mar 07 j 21:55	25°  37'25'37	1°06'02
conjunction	1376 Sep 25 j 00:46	10°  25'16'02	1°07'27	max. Earth dist.		1382 Mar 09 j 02:07	25°  37'42'39	5.96002 AU
minimum elong	1376 Sep 25 j 00:46	10°  25'16'03	1°07'26	morning rise		1382 Mar 21 j 05:54	28°  38'29	
morning rise	1376 Oct 07 j 19:41	13°  25'02'37				1382 Mar 26 j 22:28	0° 	
retrograde	1377 Feb 05 j 03:50	29°  25'53'23		retrograde		1382 Jul 31 j 16:50	19°  37'16'30	
opposition	1377 Apr 06 j 20:23	25°  25'01'08	1°32'03	min. Earth dist.		1382 Sep 28 j 08:57	14°  37'22'02	3.96645 AU
min. Earth dist.	1377 Apr 08 j 03:10	24°  25'51'17	4.42174 AU	opposition		1382 Sep 29 j 11:31	14°  37'13'03	-1°-38'-50
direct	1377 Jun 08 j 13:48	19°  25'59'41		direct		1382 Nov 26 j 09:30	9°  37'18'23	
	1377 Sep 06 j 00:01	0° 		evening set		1383 Apr 01 j 02:19	28°  37'54'56	
evening set	1377 Oct 12 j 19:22	7°  25'40'50				1383 Apr 05 j 15:53	0° 	
max. Earth dist.	1377 Oct 23 j 13:05	10°  25'02'49	6.38420 AU					
				conjunction		1383 Apr 14 j 15:12	2°  37'08'17	0°-58'-57
conjunction	1377 Oct 25 j 12:34	10°  25'29'05	0°54'39	minimum elong		1383 Apr 14 j 15:15	2°  37'08'18	0°58'58
minimum elong	1377 Oct 25 j 12:36	10°  25'29'06	0°54'39	max. Earth dist.		1383 Apr 16 j 17:04	2°  37'37'59	5.99283 AU
morning rise	1377 Nov 07 j 03:32	13°  25'16'28		morning rise		1383 Apr 28 j 07:03	5°  37'22'58	
	1377 Nov 15 j 00:54	15°  25'15'00				1383 Jun 10 j 06:03	15°  37'08'03	
	1378 Feb 17 j 16:38	0° 		retrograde		1383 Sep 06 j 07:20	25°  37'08'40'4	
retrograde	1378 Mar 08 j 22:41	0°  37'34'30		min. Earth dist.		1383 Nov 03 j 10:37	20°  37'40'52	4.03979 AU
	1378 Mar 28 j 05:57	30°  37'30'36		opposition		1383 Nov 04 j 21:28	20°  37'28'59	-1°-9'-1
opposition	1378 May 08 j 20:44	25°  37'42'36	1°01'36	direct		1384 Jan 02 j 01:08	15°  37'31'36	
min. Earth dist.	1378 May 10 j 08:14	25°  37'31'18	4.33374 AU			1384 Apr 16 j 10:30	0° 	
direct	1378 Jul 10 j 03:50	20°  37'43'16		evening set		1384 May 07 j 07:43	4°  37'43'45	
	1378 Oct 02 j 12:48	0° 						
evening set	1378 Nov 12 j 21:05	8°  37'46'41		conjunction		1384 May 21 j 01:36	7°  37'54'29	0°-29'-39
max. Earth dist.	1378 Nov 23 j 13:12	11°  37'11'47	6.27158 AU	minimum elong		1384 May 21 j 01:38	7°  37'54'30	0°29'39
				max. Earth dist.		1384 May 23 j 06:00	8°  37'54'49	6.09985 AU
conjunction	1378 Nov 25 j 12:42	11°  37'38'47	0°25'57	morning rise		1384 Jun 03 j 20:48	11°  37'05'35	
minimum elong	1378 Nov 25 j 12:44	11°  37'38'48	0°25'56			1384 Sep 27 j 07:51	0° 	
morning rise	1378 Dec 08 j 03:39	14°  37'30'45		retrograde		1384 Oct 09 j 17:22	0° 	
	1379 Feb 28 j 11:38	0° 				1384 Oct 22 j 00:13	30° 	
retrograde	1379 Apr 11 j 19:42	2°  37'40'33		min. Earth dist.		1384 Dec 07 j 02:04	25°  37'21'11	4.16827 AU

opposition	1384 Dec 08 j 07:01	25°II11'22	0°-15'-35	retrograde	1390 Mar 13 j 09:00	4°♂54'30	
direct	1385 Feb 05 j 11:54	20°II11'05		opposition	1390 May 13 j 07:02	0°♂02'29	0°55'43
asc. node	1385 Mar 26 j 02:30	23°II46'18			1390 May 13 j 14:50	30°♂♂	
	1385 May 01 j 19:45	0°♂		min. Earth dist.	1390 May 14 j 19:22	29°♂50'54	4.31990 AU
evening set	1385 Jun 12 j 04:32	8°♂47'00		direct	1390 Jul 14 j 12:31	25°♂03'22	
					1390 Sep 11 j 21:34	0°♂	
conjunction	1385 Jun 25 j 21:41	11°♂51'14	0°08'56	evening set	1390 Nov 17 j 02:52	13°♂10'22	
minimum elong	1385 Jun 25 j 21:41	11°♂51'14	0°08'56	max. Earth dist.	1390 Nov 27 j 20:24	15°♂36'47	6.25386 AU
behind sun begin	1385 Jun 25 j 14:36	11°♂47'17					
behind sun end	1385 Jun 26 j 04:46	11°♂55'11		conjunction	1390 Nov 29 j 18:42	16°♂03'13	0°21'10
max. Earth dist.	1385 Jun 27 j 10:52	12°♂12'05	6.23948 AU	minimum elong	1390 Nov 29 j 18:44	16°♂03'14	0°21'09
morning rise	1385 Jul 09 j 14:03	14°♂54'49		morning rise	1390 Dec 12 j 09:45	18°♂56'00	
	1385 Sep 27 j 21:52	0°♂			1391 Feb 03 j 07:09	0°♂	
retrograde	1385 Nov 10 j 20:50	2°♂57'34		retrograde	1391 Apr 16 j 12:12	7°♂14'22	
	1385 Dec 24 j 21:00	30°♂♂		opposition	1391 Jun 16 j 09:03	2°♂20'55	0°03'24
opposition	1386 Jan 09 j 16:21	27°♂56'56	0°39'35	min. Earth dist.	1391 Jun 17 j 14:10	2°♂11'35	4.18228 AU
min. Earth dist.	1386 Jan 09 j 00:15	28°♂02'19	4.30599 AU		1391 Jul 05 j 10:48	30°♂♂	
direct	1386 Mar 11 j 04:24	22°♂54'39		desc. node	1391 Jul 09 j 20:44	29°♂31'11	
	1386 May 22 j 13:42	0°♂		direct	1391 Aug 16 j 11:21	27°♂24'24	
evening set	1386 Jul 16 j 03:59	10°♂56'36			1391 Sep 26 j 18:47	0°♂	
				evening set	1391 Dec 19 j 17:08	16°♂07'24	
conjunction	1386 Jul 29 j 15:12	13°♂53'04	0°43'01	max. Earth dist.	1391 Dec 31 j 04:26	18°♂49'02	6.11203 AU
minimum elong	1386 Jul 29 j 15:10	13°♂53'03	0°43'00				
max. Earth dist.	1386 Jul 30 j 00:37	13°♂58'13	6.36458 AU	conjunction	1392 Jan 01 j 10:54	19°♂06'59	0°-17'-13
	1386 Aug 03 j 17:33	15°♂		minimum elong	1392 Jan 01 j 10:53	19°♂06'58	0°17'13
morning rise	1386 Aug 12 j 00:18	16°♂48'18		morning rise	1392 Jan 14 j 05:47	22°♂07'21	
	1386 Oct 20 j 11:55	0°♂			1392 Feb 18 j 06:44	0°♂	
retrograde	1386 Dec 11 j 14:35	4°♂00'28		retrograde	1392 May 21 j 23:20	11°♂33'57	
	1387 Feb 02 j 11:44	30°♂♂		opposition	1392 Jul 21 j 12:16	6°♂37'31	0°-53'-34
opposition	1387 Feb 09 j 16:45	29°♂03'36	1°20'13	min. Earth dist.	1392 Jul 21 j 23:20	6°♂33'54	4.04742 AU
min. Earth dist.	1387 Feb 09 j 19:33	29°♂02'41	4.40964 AU	direct	1392 Sep 19 j 03:45	1°♂43'11	
direct	1387 Apr 12 j 11:30	24°♂00'34			1392 Dec 27 j 08:25	15°♂	
	1387 Jun 18 j 08:16	0°♂		evening set	1393 Jan 22 j 07:47	21°♂02'51	
evening set	1387 Aug 17 j 08:36	11°♂39'52					
				conjunction	1393 Feb 04 j 06:42	24°♂09'39	0°-51'-9
conjunction	1387 Aug 30 j 12:07	14°♂30'12	1°03'41	minimum elong	1393 Feb 04 j 06:40	24°♂09'38	0°51'09
minimum elong	1387 Aug 30 j 12:06	14°♂30'11	1°03'41	max. Earth dist.	1393 Feb 04 j 06:47	24°♂09'42	5.99658 AU
max. Earth dist.	1387 Aug 29 j 18:38	14°♂20'44	6.43843 AU	morning rise	1393 Feb 17 j 07:49	27°♂17'52	
morning rise	1387 Sep 12 j 12:43	17°♂19'05			1393 Feb 28 j 17:21	0°♂	
	1387 Nov 18 j 15:34	0°♂		retrograde	1393 Jun 29 j 00:11	17°♂41'22	
retrograde	1388 Jan 10 j 17:17	4°♂06'36		opposition	1393 Aug 28 j 02:01	12°♂41'03	-1°-33'-23
	1388 Mar 05 j 01:50	30°♂♂		min. Earth dist.	1393 Aug 27 j 15:05	12°♂44'42	3.96411 AU
opposition	1388 Mar 11 j 04:47	29°♂12'46	1°37'46	direct	1393 Oct 25 j 11:14	7°♂47'32	
min. Earth dist.	1388 Mar 12 j 00:08	29°♂06'31	4.45048 AU	evening set	1394 Feb 27 j 20:57	27°♂28'51	
direct	1388 May 12 j 17:51	24°♂10'10			1394 Mar 10 j 07:24	0°♂	
	1388 Jul 18 j 00:53	0°♂					
evening set	1388 Sep 16 j 08:27	11°♂42'25		conjunction	1394 Mar 13 j 03:08	0°♂40'58	-1°-6'-33
max. Earth dist.	1388 Sep 27 j 14:59	14°♂09'04	6.44243 AU	minimum elong	1394 Mar 13 j 03:07	0°♂40'58	1°06'34
				max. Earth dist.	1394 Mar 14 j 10:24	0°♂59'52	5.95265 AU
conjunction	1388 Sep 29 j 05:12	14°♂29'51	1°06'42	morning rise	1394 Mar 26 j 12:37	3°♂54'48	
minimum elong	1388 Sep 29 j 05:13	14°♂29'52	1°06'41	retrograde	1394 Aug 05 j 23:22	24°♂34'45	
morning rise	1388 Oct 11 j 23:11	17°♂16'03		min. Earth dist.	1394 Oct 03 j 11:17	19°♂40'59	3.96614 AU
	1388 Dec 18 j 00:58	0°♂		opposition	1394 Oct 04 j 17:01	19°♂30'55	-1°-36'-44
retrograde	1389 Feb 09 j 08:17	4°♂07'12		direct	1394 Dec 01 j 13:08	14°♂35'58	
	1389 Apr 05 j 05:21	30°♂♂			1395 Mar 19 j 09:05	0°♂	
opposition	1389 Apr 11 j 02:41	29°♂15'06	1°29'14	evening set	1395 Apr 06 j 10:05	4°♂12'31	
min. Earth dist.	1389 Apr 12 j 11:09	29°♂04'45	4.41809 AU				
direct	1389 Jun 12 j 20:38	24°♂13'53		conjunction	1395 Apr 20 j 00:06	7°♂26'03	0°-55'-50
	1389 Aug 17 j 09:45	0°♂		minimum elong	1395 Apr 20 j 00:09	7°♂26'05	0°55'51
evening set	1389 Oct 16 j 23:12	11°♂55'44		max. Earth dist.	1395 Apr 22 j 04:26	7°♂57'11	5.99960 AU
max. Earth dist.	1389 Oct 27 j 13:35	14°♂16'16	6.37535 AU	morning rise	1395 May 03 j 16:46	10°♂40'48	
					1395 May 22 j 08:08	15°♂	
conjunction	1389 Oct 29 j 15:50	14°♂44'08	0°51'33		1395 Aug 20 j 16:22	0°♂	
minimum elong	1389 Oct 29 j 15:52	14°♂44'09	0°51'33	retrograde	1395 Sep 11 j 09:21	0°♂46'15	
	1389 Oct 30 j 20:27	15°♂			1395 Oct 02 j 21:29	30°♂♂	
morning rise	1389 Nov 11 j 06:42	17°♂31'49		min. Earth dist.	1395 Nov 08 j 11:58	25°♂52'53	4.05251 AU
	1390 Jan 13 j 19:14	0°♂		opposition	1395 Nov 09 j 22:32	25°♂41'05	-1°-2'-15

direct	1396 Jan 07 j 05:17	20°♄43'14		min. Earth dist.	1401 Apr 16 j 22:39	3°♍28'38	4.40801 AU
	1396 Mar 28 j 03:22	0°♈			1401 May 17 j 18:39	30°♌♄	
evening set	1396 May 12 j 13:24	9°♈51'25		direct	1401 Jun 17 j 06:11	28°♌38'14	
					1401 Jul 17 j 20:03	0°♍	
conjunction	1396 May 26 j 07:40	13°♈01'30	0°-24'-18		1401 Oct 15 j 00:20	15°♍	
minimum elong	1396 May 26 j 07:42	13°♈01'31	0°24'19	evening set	1401 Oct 21 j 07:14	16°♍22'45	
max. Earth dist.	1396 May 28 j 12:51	13°♈32'08	6.11733 AU	max. Earth dist.	1401 Oct 31 j 22:00	18°♍43'57	6.36061 AU
morning rise	1396 Jun 09 j 02:50	16°♈11'47					
	1396 Aug 16 j 04:23	0°♄		conjunction	1401 Nov 02 j 23:40	19°♍11'36	0°48'02
retrograde	1396 Oct 14 j 10:02	5°♄11'40		minimum elong	1401 Nov 02 j 23:42	19°♍11'37	0°48'02
min. Earth dist.	1396 Dec 11 j 20:17	0°♄17'52	4.18833 AU	morning rise	1401 Nov 15 j 14:12	21°♍59'46	
opposition	1396 Dec 13 j 01:05	0°♄08'06	0°-7'-16		1401 Dec 23 j 12:54	0°♌	
	1396 Dec 14 j 01:02	30°♌♈		retrograde	1402 Mar 18 j 00:58	9°♌29'06	
asc. node	1397 Feb 01 j 12:15	25°♈15'19		opposition	1402 May 17 j 23:18	4°♌37'01	0°49'12
direct	1397 Feb 10 j 09:28	25°♈07'27		min. Earth dist.	1402 May 19 j 11:50	4°♌25'23	4.30128 AU
	1397 Apr 09 j 01:17	0°♄			1402 Jul 03 j 15:51	30°♌♍	
evening set	1397 Jun 17 j 04:01	13°♄37'46		direct	1402 Jul 19 j 02:12	29°♌38'14	
					1402 Aug 03 j 11:48	0°♌	
conjunction	1397 Jun 30 j 20:26	16°♄40'49	0°14'21	evening set	1402 Nov 21 j 14:59	17°♌50'09	
minimum elong	1397 Jun 30 j 20:25	16°♄40'48	0°14'22	max. Earth dist.	1402 Dec 02 j 08:22	20°♌17'15	6.23287 AU
behind sun begin	1397 Jun 30 j 16:54	16°♄38'51					
behind sun end	1397 Jun 30 j 23:57	16°♄42'46		conjunction	1402 Dec 04 j 06:49	20°♌43'54	0°15'58
max. Earth dist.	1397 Jul 02 j 05:19	16°♄59'10	6.26014 AU	minimum elong	1402 Dec 04 j 06:50	20°♌43'54	0°15'58
morning rise	1397 Jul 14 j 12:04	19°♄43'08		behind sun begin	1402 Dec 04 j 05:14	20°♌43'00	
	1397 Sep 02 j 10:58	0°♌		behind sun end	1402 Dec 04 j 08:25	20°♌44'48	
retrograde	1397 Nov 15 j 08:14	7°♌36'51		morning rise	1402 Dec 16 j 22:23	23°♌37'43	
opposition	1398 Jan 14 j 04:21	2°♌36'40	0°46'34		1403 Jan 14 j 17:41	0°♌	
min. Earth dist.	1398 Jan 13 j 15:22	2°♌41'00	4.32516 AU	retrograde	1403 Apr 21 j 13:04	12°♌05'50	
	1398 Feb 03 j 19:58	30°♌♄		desc. node	1403 May 18 j 22:33	10°♌56'52	
direct	1398 Mar 15 j 22:28	27°♄34'08		opposition	1403 Jun 21 j 08:51	7°♌12'00	0°-4'-51
	1398 Apr 25 j 10:54	0°♌		min. Earth dist.	1403 Jun 22 j 11:48	7°♌03'20	4.16037 AU
	1398 Jul 18 j 10:18	15°♌		direct	1403 Aug 21 j 06:17	2°♌15'47	
evening set	1398 Jul 20 j 20:11	15°♌31'18		evening set	1403 Dec 24 j 11:49	21°♌04'54	
				max. Earth dist.	1404 Jan 05 j 04:39	23°♌50'27	6.09134 AU
conjunction	1398 Aug 03 j 06:27	18°♌26'41	0°46'55				
minimum elong	1398 Aug 03 j 06:25	18°♌26'40	0°46'55	conjunction	1404 Jan 06 j 06:20	24°♌05'38	0°-22'-38
max. Earth dist.	1398 Aug 03 j 13:01	18°♌30'16	6.38057 AU	minimum elong	1404 Jan 06 j 06:18	24°♌05'37	0°22'40
morning rise	1398 Aug 16 j 14:11	21°♌20'43		morning rise	1404 Jan 19 j 01:49	27°♌07'13	
	1398 Sep 27 j 21:56	0°♎			1404 Jan 31 j 10:43	0°♎	
retrograde	1398 Dec 15 j 19:54	8°♎27'04			1404 Apr 23 j 20:31	15°♎	
opposition	1399 Feb 14 j 00:46	3°♎30'40	1°24'13	retrograde	1404 May 27 j 08:43	16°♎43'52	
min. Earth dist.	1399 Feb 14 j 05:15	3°♎29'12	4.42147 AU		1404 Jun 29 j 21:19	15°♎	
	1399 Mar 15 j 20:54	30°♎♌		opposition	1404 Jul 26 j 19:08	11°♎46'58	-1°00'-51
direct	1399 Apr 16 j 22:26	28°♌27'36		min. Earth dist.	1404 Jul 27 j 03:37	11°♎44'11	4.03012 AU
	1399 May 19 j 09:52	0°♎		direct	1404 Sep 24 j 05:34	6°♎52'55	
evening set	1399 Aug 21 j 19:20	16°♎04'19			1404 Dec 07 j 15:51	15°♎	
				evening set	1405 Jan 27 j 10:22	26°♎17'24	
conjunction	1399 Sep 03 j 21:40	18°♎53'55	1°05'13				
minimum elong	1399 Sep 03 j 21:39	18°♎53'54	1°05'12	conjunction	1405 Feb 09 j 10:02	29°♎25'08	0°-54'-46
max. Earth dist.	1399 Sep 03 j 00:06	18°♎42'15	6.44510 AU	minimum elong	1405 Feb 09 j 10:00	29°♎25'06	0°54'47
morning rise	1399 Sep 16 j 21:12	21°♎42'06		max. Earth dist.	1405 Feb 09 j 13:49	29°♎27'25	5.98431 AU
	1399 Oct 27 j 15:58	0°♎			1405 Feb 11 j 19:48	0°♎	
retrograde	1400 Jan 15 j 00:20	8°♎27'53		morning rise	1405 Feb 22 j 12:24	2°♎34'24	
opposition	1400 Mar 15 j 12:33	3°♎34'24	1°38'07	retrograde	1405 Jul 04 j 10:01	23°♎03'28	
min. Earth dist.	1400 Mar 16 j 11:03	3°♎27'10	4.45163 AU	opposition	1405 Sep 02 j 11:33	18°♎02'34	-1°-36'-21
	1400 Apr 15 j 12:28	30°♎♎		min. Earth dist.	1405 Sep 01 j 20:16	18°♎07'41	3.95877 AU
direct	1400 May 17 j 04:35	28°♎31'54		direct	1405 Oct 30 j 17:02	13°♎09'00	
	1400 Jun 18 j 01:10	0°♎			1406 Feb 21 j 05:10	0°♎	
evening set	1400 Sep 20 j 16:02	16°♎04'05		evening set	1406 Mar 05 j 04:49	2°♎51'13	
max. Earth dist.	1400 Oct 01 j 18:34	18°♎28'47	6.43779 AU				
conjunction	1400 Oct 03 j 12:04	18°♎51'24	1°05'36	conjunction	1406 Mar 18 j 12:11	6°♎03'46	-1°-6'-38
minimum elong	1400 Oct 03 j 12:05	18°♎51'24	1°05'36	minimum elong	1406 Mar 18 j 12:11	6°♎03'46	1°06'38
morning rise	1400 Oct 16 j 05:27	21°♎37'32		max. Earth dist.	1406 Mar 20 j 00:30	6°♎25'43	5.95481 AU
	1400 Nov 26 j 01:34	0°♎		morning rise	1406 Mar 31 j 22:40	9°♎17'58	
retrograde	1401 Feb 13 j 17:31	8°♎31'19		retrograde	1406 Aug 11 j 07:06	29°♎55'21	
opposition	1401 Apr 15 j 13:17	3°♎39'17	1°25'54	opposition	1406 Oct 09 j 23:28	24°♎51'06	-1°-33'-51
				min. Earth dist.	1406 Oct 08 j 16:42	25°♎01'33	3.97559 AU

direct	1406 Dec 06 j 20:53	19° Υ 55'47		conjunction	1412 Oct 07 j 18:22	23° $\underline{\Delta}$ 11'52	1°04'10
	1407 Feb 28 j 11:37	0° \mathcal{B}		minimum elong	1412 Oct 07 j 18:23	23° $\underline{\Delta}$ 11'53	1°04'10
evening set	1407 Apr 11 j 17:49	9° \mathcal{B} 28'31		morning rise	1412 Oct 20 j 11:12	25° $\underline{\Delta}$ 58'11	
					1412 Nov 08 j 08:04	0° \mathcal{M}	
conjunction	1407 Apr 25 j 08:43	12° \mathcal{B} 41'44	0°-52'-21	retrograde	1413 Feb 18 j 05:05	12° \mathcal{M} 56'21	
minimum elong	1407 Apr 25 j 08:46	12° \mathcal{B} 41'45	0°52'22	opposition	1413 Apr 20 j 00:28	8° \mathcal{M} 04'30	1°22'06
max. Earth dist.	1407 Apr 27 j 15:43	13° \mathcal{B} 14'16	6.01533 AU	min. Earth dist.	1413 Apr 21 j 11:40	7° \mathcal{M} 53'17	4.39342 AU
	1407 May 05 j 02:45	15° \mathcal{B}		direct	1413 Jun 21 j 16:55	3° \mathcal{M} 03'47	
morning rise	1407 May 09 j 02:01	15° \mathcal{B} 56'00			1413 Sep 28 j 06:52	15° \mathcal{M}	
	1407 Jul 15 j 04:31	0° \mathcal{I}		evening set	1413 Oct 25 j 16:08	20° \mathcal{M} 52'25	
retrograde	1407 Sep 16 j 07:43	5° \mathcal{I} 52'09		max. Earth dist.	1413 Nov 05 j 05:23	23° \mathcal{M} 13'27	6.34222 AU
min. Earth dist.	1407 Nov 13 j 10:19	0° \mathcal{I} 59'00	4.07269 AU				
opposition	1407 Nov 14 j 21:23	0° \mathcal{I} 47'03	0°-55'-10	conjunction	1413 Nov 07 j 08:21	23° \mathcal{M} 41'56	0°44'14
	1407 Nov 20 j 16:06	30° \mathcal{R} \mathcal{B}		minimum elong	1413 Nov 07 j 08:23	23° \mathcal{M} 41'57	0°44'13
direct	1408 Jan 12 j 06:16	25° \mathcal{B} 48'48		morning rise	1413 Nov 19 j 22:59	26° \mathcal{M} 30'53	
	1408 Mar 04 j 07:54	0° \mathcal{I}			1413 Dec 05 j 20:17	0° \mathcal{J}	
evening set	1408 May 17 j 16:07	14° \mathcal{I} 50'36		retrograde	1414 Mar 22 j 19:09	14° \mathcal{J} 08'15	
				opposition	1414 May 22 j 17:29	9° \mathcal{J} 16'01	0°42'18
conjunction	1408 May 31 j 10:16	17° \mathcal{I} 59'39	0°-18'-57	min. Earth dist.	1414 May 24 j 04:28	9° \mathcal{J} 04'52	4.28031 AU
minimum elong	1408 May 31 j 10:17	17° \mathcal{I} 59'40	0°18'58	direct	1414 Jul 23 j 15:50	4° \mathcal{J} 17'37	
max. Earth dist.	1408 Jun 02 j 12:06	18° \mathcal{I} 28'13	6.13994 AU	evening set	1414 Nov 26 j 04:41	22° \mathcal{J} 35'12	
morning rise	1408 Jun 14 j 05:19	21° \mathcal{I} 08'48		max. Earth dist.	1414 Dec 07 j 02:07	25° \mathcal{J} 05'18	6.21124 AU
	1408 Jul 25 j 06:00	0° \mathcal{S}					
retrograde	1408 Oct 18 j 23:42	9° \mathcal{S} 57'53		conjunction	1414 Dec 08 j 20:50	25° \mathcal{J} 29'56	0°10'37
asc. node	1408 Dec 12 j 07:43	5° \mathcal{S} 37'51		minimum elong	1414 Dec 08 j 20:51	25° \mathcal{J} 29'56	0°10'37
opposition	1408 Dec 17 j 15:39	4° \mathcal{S} 54'42	0°00'46	behind sun begin	1414 Dec 08 j 14:38	25° \mathcal{J} 26'22	
min. Earth dist.	1408 Dec 16 j 13:17	5° \mathcal{S} 03'37	4.21104 AU	behind sun end	1414 Dec 09 j 03:05	25° \mathcal{J} 33'31	
	1409 Feb 07 j 05:46	30° \mathcal{R} \mathcal{I}		morning rise	1414 Dec 21 j 12:41	28° \mathcal{J} 24'49	
direct	1409 Feb 15 j 05:44	29° \mathcal{I} 53'40			1414 Dec 28 j 11:37	0° \mathcal{S}	
	1409 Feb 23 j 06:07	0° \mathcal{S}		desc. node	1415 Mar 27 j 19:42	15° \mathcal{S} 40'42	
evening set	1409 Jun 21 j 23:23	18° \mathcal{S} 17'58		retrograde	1415 Apr 26 j 17:00	17° \mathcal{S} 02'55	
				opposition	1415 Jun 26 j 10:54	12° \mathcal{S} 08'47	0°-13'-12
conjunction	1409 Jul 05 j 15:15	21° \mathcal{S} 19'50	0°19'31	min. Earth dist.	1415 Jun 27 j 12:00	12° \mathcal{S} 00'42	4.13974 AU
minimum elong	1409 Jul 05 j 15:13	21° \mathcal{S} 19'49	0°19'30	direct	1415 Aug 26 j 03:38	7° \mathcal{S} 13'00	
max. Earth dist.	1409 Jul 06 j 21:35	21° \mathcal{S} 36'42	6.28119 AU	evening set	1415 Dec 29 j 08:31	26° \mathcal{S} 07'33	
morning rise	1409 Jul 19 j 05:43	24° \mathcal{S} 20'49		max. Earth dist.	1416 Jan 10 j 04:46	28° \mathcal{S} 55'49	6.07356 AU
	1409 Aug 14 j 14:24	0° \mathcal{Q}					
retrograde	1409 Nov 19 j 15:04	12° \mathcal{Q} 06'01		conjunction	1416 Jan 11 j 03:28	29° \mathcal{S} 09'17	0°-27'-58
opposition	1410 Jan 18 j 12:38	7° \mathcal{Q} 06'26	0°53'01	minimum elong	1416 Jan 11 j 03:26	29° \mathcal{S} 09'16	0°27'59
min. Earth dist.	1410 Jan 18 j 01:46	7° \mathcal{Q} 10'03	4.34296 AU		1416 Jan 14 j 16:54	0° \approx	
direct	1410 Mar 20 j 10:35	2° \mathcal{Q} 03'47		morning rise	1416 Jan 23 j 23:55	2° \approx 12'01	
	1410 Jul 01 j 22:36	15° \mathcal{Q}			1416 Mar 23 j 16:01	15° \approx	
evening set	1410 Jul 25 j 08:57	19° \mathcal{Q} 57'02		retrograde	1416 Jun 01 j 15:48	21° \approx 57'16	
				opposition	1416 Aug 01 j 02:37	16° \approx 59'47	-1°-7'-41
conjunction	1410 Aug 07 j 17:59	22° \mathcal{Q} 51'25	0°50'26	min. Earth dist.	1416 Aug 01 j 06:34	16° \approx 58'29	4.01705 AU
minimum elong	1410 Aug 07 j 17:56	22° \mathcal{Q} 51'24	0°50'27		1416 Aug 16 j 19:13	15° \mathcal{R} \approx	
max. Earth dist.	1410 Aug 07 j 18:33	22° \mathcal{Q} 51'44	6.39364 AU	direct	1416 Sep 29 j 07:46	12° \approx 05'56	
morning rise	1410 Aug 21 j 00:42	25° \mathcal{Q} 44'29			1416 Nov 10 j 22:54	15° \approx	
	1410 Sep 10 j 02:39	0° \mathcal{P}			1417 Jan 26 j 00:48	0° \mathcal{H}	
retrograde	1410 Dec 20 j 01:46	12° \mathcal{P} 46'30		evening set	1417 Feb 01 j 13:30	1° \mathcal{H} 33'35	
opposition	1411 Feb 18 j 06:39	7° \mathcal{P} 50'37	1°27'39				
min. Earth dist.	1411 Feb 18 j 14:59	7° \mathcal{P} 47'54	4.42919 AU	conjunction	1417 Feb 14 j 14:11	4° \mathcal{H} 42'04	0°-57'-57
direct	1411 Apr 21 j 08:20	2° \mathcal{P} 47'33		minimum elong	1417 Feb 14 j 14:09	4° \mathcal{H} 42'02	0°57'58
evening set	1411 Aug 26 j 03:23	20° \mathcal{P} 23'06		max. Earth dist.	1417 Feb 14 j 23:53	4° \mathcal{H} 47'55	5.97709 AU
max. Earth dist.	1411 Sep 07 j 04:32	22° \mathcal{P} 59'06	6.44679 AU	morning rise	1417 Feb 27 j 17:29	7° \mathcal{H} 52'05	
				retrograde	1417 Jul 09 j 20:37	28° \mathcal{H} 24'21	
conjunction	1411 Sep 08 j 04:54	23° \mathcal{P} 12'17	1°06'22	opposition	1417 Sep 07 j 20:03	23° \mathcal{H} 22'53	-1°-38'-28
minimum elong	1411 Sep 08 j 04:53	23° \mathcal{P} 12'16	1°06'21	min. Earth dist.	1417 Sep 07 j 02:44	23° \mathcal{H} 28'40	3.95819 AU
morning rise	1411 Sep 21 j 03:21	26° \mathcal{P} 00'00		direct	1417 Nov 05 j 00:38	18° \mathcal{H} 29'09	
	1411 Oct 10 j 01:39	0° $\underline{\Delta}$			1418 Feb 03 j 00:18	0° \mathcal{Y}	
retrograde	1412 Jan 19 j 05:10	12° $\underline{\Delta}$ 46'00		evening set	1418 Mar 10 j 11:19	8° \mathcal{Y} 10'32	
opposition	1412 Mar 19 j 19:16	7° $\underline{\Delta}$ 52'50	1°37'59				
min. Earth dist.	1412 Mar 20 j 19:05	7° $\underline{\Delta}$ 45'11	4.44751 AU	conjunction	1418 Mar 23 j 19:48	11° \mathcal{Y} 23'19	-1°-6'-9
direct	1412 May 21 j 11:05	2° $\underline{\Delta}$ 50'32		minimum elong	1418 Mar 23 j 19:48	11° \mathcal{Y} 23'19	1°06'10
evening set	1412 Sep 24 j 23:03	20° $\underline{\Delta}$ 24'27		max. Earth dist.	1418 Mar 25 j 12:17	11° \mathcal{Y} 47'42	5.96070 AU
max. Earth dist.	1412 Oct 05 j 22:59	22° $\underline{\Delta}$ 48'09	6.42815 AU	morning rise	1418 Apr 06 j 07:22	14° \mathcal{Y} 37'42	
					1418 Jun 18 j 12:35	0° \mathcal{B}	

retrograde	1418 Aug 16 j 11:04	5°♄10'50		direct	1424 May 25 j 20:59	7°♄11'51	
min. Earth dist.	1418 Oct 13 j 18:48	0°♄17'21	3.98744 AU	evening set	1424 Sep 29 j 06:57	24°♄47'33	
opposition	1418 Oct 15 j 03:17	0°♄06'19	-1°-30'-14	max. Earth dist.	1424 Oct 10 j 05:15	27°♄10'45	6.41803 AU
	1418 Oct 15 j 21:53	30°♄					
direct	1418 Dec 12 j 00:25	25°♄10'39		conjunction	1424 Oct 12 j 01:50	27°♄35'10	1°02'21
	1419 Feb 05 j 10:35	0°♄		minimum elong	1424 Oct 12 j 01:51	27°♄35'11	1°02'20
evening set	1419 Apr 16 j 23:25	14°♄39'07			1424 Oct 23 j 02:19	0°♄	
	1419 Apr 18 j 11:02	15°♄		morning rise	1424 Oct 24 j 18:07	0°♄21'42	
					1425 Jan 13 j 15:01	15°♄	
conjunction	1419 Apr 30 j 14:55	17°♄51'51	0°-48'-30	retrograde	1425 Feb 22 j 16:38	17°♄24'23	
minimum elong	1419 Apr 30 j 14:57	17°♄51'53	0°48'30		1425 Apr 04 j 06:45	15°♄	
max. Earth dist.	1419 May 02 j 20:54	18°♄23'40	6.03183 AU	opposition	1425 Apr 24 j 13:21	12°♄32'34	1°17'47
morning rise	1419 May 14 j 08:53	21°♄05'36		min. Earth dist.	1425 Apr 25 j 23:53	12°♄21'33	4.37950 AU
	1419 Jun 23 j 09:53	0°♄		direct	1425 Jun 26 j 02:43	7°♄32'13	
retrograde	1419 Sep 21 j 03:08	10°♄52'32			1425 Sep 09 j 06:58	15°♄	
min. Earth dist.	1419 Nov 18 j 07:21	5°♄59'11	4.09192 AU	evening set	1425 Oct 30 j 02:02	25°♄24'26	
opposition	1419 Nov 19 j 17:29	5°♄47'32	0°-47'-50	max. Earth dist.	1425 Nov 09 j 16:29	27°♄46'42	6.32579 AU
direct	1420 Jan 17 j 06:44	0°♄48'49					
evening set	1420 May 22 j 16:43	19°♄45'00		conjunction	1425 Nov 11 j 18:01	28°♄14'30	0°40'08
				minimum elong	1425 Nov 11 j 18:02	28°♄14'31	0°40'07
conjunction	1420 Jun 05 j 11:02	22°♄53'09	0°-13'-33		1425 Nov 19 j 13:57	0°♄	
minimum elong	1420 Jun 05 j 11:02	22°♄53'10	0°13'34	morning rise	1425 Nov 24 j 08:35	1°♄04'06	
behind sun begin	1420 Jun 05 j 06:38	22°♄50'40		retrograde	1426 Mar 27 j 15:43	18°♄48'50	
behind sun end	1420 Jun 05 j 15:26	22°♄55'40		opposition	1426 May 27 j 12:49	13°♄56'29	0°35'05
max. Earth dist.	1420 Jun 07 j 11:39	23°♄20'54	6.16052 AU	min. Earth dist.	1426 May 28 j 23:26	13°♄45'26	4.26243 AU
morning rise	1420 Jun 19 j 05:36	26°♄01'12		direct	1426 Jul 28 j 08:31	8°♄58'31	
	1420 Jul 07 j 02:52	0°♄		evening set	1426 Nov 30 j 18:51	27°♄20'26	
asc. node	1420 Oct 22 j 07:51	14°♄40'21		max. Earth dist.	1426 Dec 11 j 18:10	29°♄52'16	6.19357 AU
retrograde	1420 Oct 23 j 12:47	14°♄40'29			1426 Dec 12 j 07:32	0°♄	
min. Earth dist.	1420 Dec 21 j 04:14	9°♄45'59	4.23096 AU				
opposition	1420 Dec 22 j 04:36	9°♄37'46	0°08'41	conjunction	1426 Dec 13 j 11:10	0°♄15'59	0°05'13
direct	1421 Feb 19 j 22:57	4°♄36'27		minimum elong	1426 Dec 13 j 11:11	0°♄15'59	0°05'13
evening set	1421 Jun 26 j 17:39	22°♄55'49		behind sun begin	1426 Dec 13 j 03:26	0°♄11'32	
				behind sun end	1426 Dec 13 j 18:55	0°♄20'27	
conjunction	1421 Jul 10 j 08:39	25°♄56'36	0°24'30	morning rise	1426 Dec 26 j 03:32	3°♄11'49	
minimum elong	1421 Jul 10 j 08:37	25°♄56'35	0°24'30	desc. node	1427 Feb 04 j 09:33	11°♄59'46	
max. Earth dist.	1421 Jul 11 j 09:38	26°♄10'26	6.29882 AU	retrograde	1427 May 01 j 17:55	21°♄58'22	
morning rise	1421 Jul 23 j 22:22	28°♄56'28		opposition	1427 Jul 01 j 12:19	17°♄03'49	0°-21'-23
	1421 Jul 28 j 18:26	0°♄		min. Earth dist.	1427 Jul 02 j 09:37	16°♄56'56	4.12378 AU
	1421 Oct 23 j 05:37	15°♄		direct	1427 Aug 30 j 23:23	12°♄08'24	
retrograde	1421 Nov 23 j 22:35	16°♄34'31			1427 Dec 29 j 10:38	0°♄	
	1421 Dec 25 j 11:13	15°♄		evening set	1428 Jan 03 j 04:09	1°♄06'46	
opposition	1422 Jan 22 j 20:53	11°♄35'26	0°59'08				
min. Earth dist.	1422 Jan 22 j 13:04	11°♄38'01	4.35716 AU	conjunction	1428 Jan 15 j 23:42	4°♄09'18	0°-32'-59
direct	1422 Mar 24 j 23:02	6°♄32'35		minimum elong	1428 Jan 15 j 23:40	4°♄09'17	0°33'00
	1422 Jun 13 j 14:12	15°♄		max. Earth dist.	1428 Jan 15 j 06:18	3°♄58'56	6.06074 AU
evening set	1422 Jul 29 j 21:25	24°♄22'55		morning rise	1428 Jan 28 j 20:47	7°♄12'53	
					1428 Mar 03 j 02:09	15°♄	
conjunction	1422 Aug 12 j 05:34	27°♄16'30	0°53'40	retrograde	1428 Jun 06 j 23:02	27°♄04'53	
minimum elong	1422 Aug 12 j 05:32	27°♄16'29	0°53'40	opposition	1428 Aug 06 j 08:02	22°♄06'51	-1°-13'-48
max. Earth dist.	1422 Aug 12 j 03:26	27°♄15'21	6.40339 AU	min. Earth dist.	1428 Aug 06 j 09:40	22°♄06'19	4.00864 AU
	1422 Aug 24 j 18:53	0°♄		direct	1428 Oct 04 j 10:33	17°♄13'08	
morning rise	1422 Aug 25 j 10:57	0°♄08'41			1429 Jan 08 j 19:08	0°♄	
retrograde	1422 Dec 24 j 06:49	17°♄07'22		evening set	1429 Feb 06 j 14:08	6°♄42'21	
opposition	1423 Feb 22 j 13:08	12°♄11'56	1°30'39				
min. Earth dist.	1423 Feb 22 j 23:23	12°♄08'36	4.43411 AU	conjunction	1429 Feb 19 j 15:42	9°♄51'22	-1°00'-33
direct	1423 Apr 25 j 16:44	7°♄08'56		minimum elong	1429 Feb 19 j 15:40	9°♄51'21	1°00'35
evening set	1423 Aug 30 j 12:29	24°♄43'59		max. Earth dist.	1429 Feb 20 j 05:44	9°♄59'51	5.97372 AU
max. Earth dist.	1423 Sep 11 j 08:06	27°♄17'09	6.44640 AU	morning rise	1429 Mar 04 j 20:03	13°♄02'00	
					1429 May 27 j 10:44	0°♄	
conjunction	1423 Sep 12 j 12:54	27°♄32'45	1°07'09	retrograde	1429 Jul 15 j 01:54	3°♄35'45	
minimum elong	1423 Sep 12 j 12:53	27°♄32'45	1°07'09		1429 Sep 02 j 03:54	30°♄	
	1423 Sep 23 j 21:07	0°♄		min. Earth dist.	1429 Sep 12 j 04:17	28°♄40'36	3.96062 AU
morning rise	1423 Sep 25 j 10:35	0°♄20'10		opposition	1429 Sep 13 j 00:30	28°♄33'49	-1°-39'-40
retrograde	1424 Jan 23 j 14:00	17°♄06'52		direct	1429 Nov 10 j 02:14	23°♄39'58	
opposition	1424 Mar 24 j 03:39	12°♄14'00	1°37'18		1430 Jan 13 j 03:54	0°♄	
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


























































































































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minimum elong	1430 Mar 28 j 23:55	16°♈32'44	1°05'10	opposition	1436 Mar 28 j 11:56	16°♊35'35	1°36'02
max. Earth dist.	1430 Mar 30 j 17:37	16°♈57'48	5.96836 AU	min. Earth dist.	1436 Mar 29 j 15:04	16°♊26'53	4.43691 AU
morning rise	1430 Apr 11 j 12:32	19°♈47'12		direct	1436 May 30 j 04:42	11°♊33'40	
	1430 May 26 j 22:48	0°♉		evening set	1436 Oct 03 j 14:27	29°♊10'41	
retrograde	1430 Aug 21 j 10:04	10°♉15'36			1436 Oct 07 j 08:50	0°♋	
min. Earth dist.	1430 Oct 18 j 17:34	5°♉22'07	3.99945 AU	max. Earth dist.	1436 Oct 14 j 10:07	1°♋32'51	6.40907 AU
opposition	1430 Oct 20 j 02:33	5°♉10'53	-1°-26'-3				
direct	1430 Dec 17 j 01:12	0°♉14'49		conjunction	1436 Oct 16 j 08:35	1°♋58'23	1°00'10
	1431 Apr 01 j 18:31	15°♉		minimum elong	1436 Oct 16 j 08:37	1°♋58'24	1°00'09
evening set	1431 Apr 22 j 01:04	19°♉39'28		morning rise	1436 Oct 29 j 00:33	4°♋45'06	
					1436 Dec 18 j 18:33	15°♋	
conjunction	1431 May 05 j 17:25	22°♉51'52	0°-44'-26	retrograde	1437 Feb 27 j 05:46	21°♋51'45	
minimum elong	1431 May 05 j 17:28	22°♉51'53	0°44'28	opposition	1437 Apr 29 j 01:43	16°♋59'54	1°12'59
max. Earth dist.	1431 May 08 j 00:24	23°♉24'07	6.04721 AU	min. Earth dist.	1437 Apr 30 j 13:33	16°♋48'29	4.36694 AU
morning rise	1431 May 19 j 11:41	26°♉05'03			1437 May 15 j 04:54	15°♌	
	1431 Jun 05 j 13:56	0°♌		direct	1437 Jun 30 j 14:36	11°♌59'46	
retrograde	1431 Sep 25 j 21:19	15°♌43'40			1437 Aug 15 j 10:43	15°♌	
min. Earth dist.	1431 Nov 23 j 01:30	10°♌50'03	4.10894 AU	evening set	1437 Nov 03 j 10:48	29°♌54'54	
opposition	1431 Nov 24 j 10:07	10°♌38'57	0°-40'-27		1437 Nov 03 j 19:56	0°♍	
direct	1432 Jan 22 j 02:48	5°♌39'53		max. Earth dist.	1437 Nov 14 j 01:39	2°♍17'53	6.31047 AU
evening set	1432 May 27 j 14:13	24°♌31'38					
				conjunction	1437 Nov 16 j 02:44	2°♍45'32	0°35'48
conjunction	1432 Jun 10 j 08:20	27°♌38'59	0°-8'-15	minimum elong	1437 Nov 16 j 02:46	2°♍45'33	0°35'49
minimum elong	1432 Jun 10 j 08:20	27°♌38'59	0°08'16	morning rise	1437 Nov 28 j 17:19	5°♍35'46	
behind sun begin	1432 Jun 10 j 00:59	27°♌34'50		retrograde	1438 Apr 01 j 08:30	23°♍27'26	
behind sun end	1432 Jun 10 j 15:41	27°♌43'08		opposition	1438 Jun 01 j 06:51	18°♍34'47	0°27'40
max. Earth dist.	1432 Jun 12 j 05:25	28°♌04'36	6.17774 AU	min. Earth dist.	1438 Jun 02 j 15:28	18°♍24'22	4.24509 AU
	1432 Jun 20 j 16:57	0°♎		direct	1438 Aug 01 j 21:39	13°♍37'09	
morning rise	1432 Jun 24 j 02:44	0°♎46'09			1438 Nov 26 j 07:52	0°♏	
asc. node	1432 Sep 02 j 14:31	14°♎43'37		evening set	1438 Dec 05 j 07:45	2°♏03'20	
retrograde	1432 Oct 27 j 22:23	19°♎17'20		desc. node	1438 Dec 15 j 08:00	4°♏22'21	
opposition	1432 Dec 26 j 15:12	14°♎15'05	0°16'18	max. Earth dist.	1438 Dec 16 j 10:05	4°♏37'31	6.17557 AU
min. Earth dist.	1432 Dec 25 j 16:41	14°♎22'40	4.24701 AU				
direct	1433 Feb 24 j 12:59	9°♎13'29		conjunction	1438 Dec 18 j 00:18	4°♏59'43	0°00'-15
evening set	1433 Jul 01 j 09:58	27°♎29'29		minimum elong	1438 Dec 18 j 00:17	4°♏59'42	0°00'17
	1433 Jul 12 j 19:08	0°♏		behind sun begin	1438 Dec 17 j 16:20	4°♏55'07	
				behind sun end	1438 Dec 18 j 08:14	5°♏04'18	
conjunction	1433 Jul 15 j 00:19	0°♏29'24	0°29'13	morning rise	1438 Dec 30 j 17:04	7°♏56'29	
minimum elong	1433 Jul 15 j 00:17	0°♏29'23	0°29'12	retrograde	1439 May 06 j 20:00	26°♏51'51	
max. Earth dist.	1433 Jul 15 j 22:15	0°♏41'31	6.31271 AU	opposition	1439 Jul 06 j 12:47	21°♏56'50	0°-29'-27
morning rise	1433 Jul 28 j 12:58	3°♏28'16		min. Earth dist.	1439 Jul 07 j 08:45	21°♏50'23	4.10626 AU
	1433 Sep 24 j 08:58	15°♏		direct	1439 Sep 04 j 20:42	17°♏01'40	
retrograde	1433 Nov 28 j 05:58	21°♏00'37			1439 Dec 12 j 13:42	0°♐	
opposition	1434 Jan 27 j 04:00	16°♏02'08	1°04'45	evening set	1440 Jan 07 j 23:17	6°♐04'38	
min. Earth dist.	1434 Jan 26 j 22:46	16°♏03'51	4.36804 AU				
	1434 Feb 04 j 01:07	15°♑		conjunction	1440 Jan 20 j 19:31	9°♐08'06	0°-37'-47
direct	1434 Mar 29 j 09:48	10°♑59'15		minimum elong	1440 Jan 20 j 19:29	9°♐08'05	0°37'48
	1434 May 21 j 18:09	15°♑		max. Earth dist.	1440 Jan 20 j 05:33	8°♐59'47	6.04531 AU
evening set	1434 Aug 03 j 09:08	28°♑47'42		morning rise	1440 Feb 02 j 17:30	12°♐12'44	
	1434 Aug 08 j 22:52	0°♒			1440 Feb 14 j 14:12	15°♐	
					1440 May 05 j 08:40	0°♓	
conjunction	1434 Aug 16 j 16:10	1°♒40'35	0°56'32	retrograde	1440 Jun 12 j 04:51	2°♓12'20	
minimum elong	1434 Aug 16 j 16:08	1°♒40'34	0°56'31		1440 Jul 20 j 04:22	30°♓	
max. Earth dist.	1434 Aug 16 j 09:24	1°♒36'55	6.41040 AU	opposition	1440 Aug 11 j 12:45	27°♓13'46	-1°-19'-26
morning rise	1434 Aug 29 j 20:37	4°♒32'05		min. Earth dist.	1440 Aug 11 j 10:56	27°♓14'22	3.99704 AU
retrograde	1434 Dec 28 j 12:55	21°♒28'20		direct	1440 Oct 09 j 10:16	22°♓20'08	
opposition	1435 Feb 26 j 19:40	16°♒33'18	1°33'04		1440 Dec 20 j 02:34	0°♔	
min. Earth dist.	1435 Feb 27 j 08:21	16°♒29'11	4.43717 AU	evening set	1441 Feb 11 j 15:47	11°♔52'29	
direct	1435 Apr 30 j 01:33	11°♒30'20					
evening set	1435 Sep 03 j 20:48	29°♒05'09		conjunction	1441 Feb 24 j 18:17	15°♔02'16	-1°-2'-45
	1435 Sep 08 j 02:38	0°♕		minimum elong	1441 Feb 24 j 18:15	15°♔02'15	1°02'45
				max. Earth dist.	1441 Feb 25 j 11:31	15°♔12'41	5.96687 AU
conjunction	1435 Sep 16 j 20:28	1°♕53'37	1°07'32	morning rise	1441 Mar 09 j 23:49	18°♔13'42	
minimum elong	1435 Sep 16 j 20:28	1°♕53'37	1°07'32		1441 May 01 j 20:15	0°♖	
max. Earth dist.	1435 Sep 15 j 14:43	1°♕37'29	6.44528 AU	retrograde	1441 Jul 20 j 07:38	8°♖50'12	
morning rise	1435 Sep 29 j 17:05	4°♕40'43		min. Earth dist.	1441 Sep 17 j 07:21	3°♖55'16	3.95933 AU

opposition	1441 Sep 18 j 05:48	3° Υ 47'43	-1°-40'-10	evening set	1447 Sep 08 j 03:54	3° Ω 22'24	
	1441 Oct 20 j 16:29	30° \Re Υ		max. Earth dist.	1447 Sep 19 j 16:40	5° Ω 51'58	6.45009 AU
direct	1441 Nov 15 j 06:03	28° Υ 53'37					
	1441 Dec 10 j 18:42	0° Υ		conjunction	1447 Sep 21 j 02:27	6° Ω 10'17	1°07'33
evening set	1442 Mar 20 j 19:43	18° Υ 33'33		minimum elong	1447 Sep 21 j 02:27	6° Ω 10'17	1°07'34
				morning rise	1447 Oct 03 j 22:16	8° Ω 56'51	
conjunction	1442 Apr 03 j 06:25	21° Υ 46'46	-1°-3'-38	retrograde	1448 Feb 01 j 02:19	25° Ω 43'34	
minimum elong	1442 Apr 03 j 06:27	21° Υ 46'47	1°03'39	opposition	1448 Apr 01 j 18:23	20° Ω 51'06	1°34'16
max. Earth dist.	1442 Apr 05 j 04:14	22° Υ 14'15	5.97278 AU	min. Earth dist.	1448 Apr 02 j 23:36	20° Ω 41'44	4.43684 AU
morning rise	1442 Apr 16 j 19:59	25° Υ 01'28		direct	1448 Jun 03 j 12:32	15° Ω 49'19	
	1442 May 08 j 04:08	0° Υ			1448 Sep 21 j 18:49	0° \Re	
	1442 Aug 10 j 07:39	15° Υ		evening set	1448 Oct 07 j 18:42	3° \Re 26'06	
retrograde	1442 Aug 26 j 13:48	15° Υ 26'01		max. Earth dist.	1448 Oct 18 j 13:34	5° \Re 48'00	6.40400 AU
	1442 Sep 11 j 15:46	15° \Re Υ					
min. Earth dist.	1442 Oct 23 j 18:57	10° Υ 32'26	4.00902 AU	conjunction	1448 Oct 20 j 12:26	6° \Re 13'48	0°57'43
opposition	1442 Oct 25 j 04:07	10° Υ 21'09	-1°-21'-9	minimum elong	1448 Oct 20 j 12:28	6° \Re 13'49	0°57'42
direct	1442 Dec 22 j 04:22	5° Υ 24'43		morning rise	1448 Nov 02 j 03:46	9° \Re 00'32	
	1443 Mar 13 j 23:00	15° Υ			1448 Nov 30 j 09:11	15° \Re	
evening set	1443 Apr 27 j 06:04	24° Υ 46'23		retrograde	1449 Mar 03 j 13:01	26° \Re 10'20	
				opposition	1449 May 03 j 10:54	21° \Re 18'28	1°07'55
conjunction	1443 May 10 j 22:56	27° Υ 58'26	0°-39'-56	min. Earth dist.	1449 May 04 j 22:54	21° \Re 07'01	4.35696 AU
minimum elong	1443 May 10 j 22:59	27° Υ 58'27	0°39'57	direct	1449 Jul 04 j 21:23	16° \Re 18'39	
max. Earth dist.	1443 May 13 j 05:12	28° Υ 30'08	6.06098 AU		1449 Oct 19 j 05:09	0° Υ	
	1443 May 19 j 15:13	0° Π		evening set	1449 Nov 07 j 15:57	4° Υ 16'08	
morning rise	1443 May 24 j 17:48	1° Π 11'12		max. Earth dist.	1449 Nov 18 j 05:45	6° Υ 39'05	6.29619 AU
retrograde	1443 Sep 30 j 15:24	20° Π 41'39					
min. Earth dist.	1443 Nov 27 j 20:40	15° Π 48'15	4.12553 AU	conjunction	1449 Nov 20 j 07:36	7° Υ 07'16	0°31'25
opposition	1443 Nov 29 j 05:16	15° Π 37'09	0°-32'-35	minimum elong	1449 Nov 20 j 07:37	7° Υ 07'16	0°31'25
direct	1444 Jan 27 j 00:37	10° Π 37'42		morning rise	1449 Dec 02 j 22:19	9° Υ 58'07	
evening set	1444 Jun 01 j 15:06	29° Π 25'07		retrograde	1450 Apr 06 j 00:24	27° Υ 56'57	
	1444 Jun 04 j 05:02	0° Υ		opposition	1450 Jun 05 j 21:26	23° Υ 04'05	0°20'20
				min. Earth dist.	1450 Jun 07 j 06:28	22° Υ 53'31	4.22710 AU
conjunction	1444 Jun 15 j 09:04	2° Υ 31'36	0°-2'-44	direct	1450 Aug 06 j 09:51	18° Υ 06'42	
minimum elong	1444 Jun 15 j 09:04	2° Υ 31'36	0°02'45	desc. node	1450 Oct 27 j 05:47	27° Υ 11'21	
behind sun begin	1444 Jun 15 j 00:43	2° Υ 26'53			1450 Nov 10 j 00:27	0° Υ	
behind sun end	1444 Jun 15 j 17:25	2° Υ 36'18		evening set	1450 Dec 09 j 17:20	6° Υ 37'52	
max. Earth dist.	1444 Jun 17 j 04:00	2° Υ 55'54	6.19618 AU	max. Earth dist.	1450 Dec 20 j 21:38	9° Υ 13'51	6.15541 AU
morning rise	1444 Jun 29 j 02:54	5° Υ 37'43					
asc. node	1444 Jul 12 j 21:17	8° Υ 40'54		conjunction	1450 Dec 22 j 10:19	9° Υ 35'15	0°-5'-33
retrograde	1444 Nov 01 j 12:15	24° Υ 00'04		minimum elong	1450 Dec 22 j 10:18	9° Υ 35'15	0°05'33
min. Earth dist.	1444 Dec 30 j 08:23	19° Υ 05'07	4.26574 AU	behind sun begin	1450 Dec 22 j 02:36	9° Υ 30'47	
opposition	1444 Dec 31 j 04:33	18° Υ 58'20	0°24'02	behind sun end	1450 Dec 22 j 18:00	9° Υ 39'43	
direct	1445 Mar 01 j 07:25	13° Υ 56'34		morning rise	1451 Jan 04 j 03:36	12° Υ 33'07	
	1445 Jun 26 j 08:58	0° Ω			1451 Apr 09 j 02:11	0° \approx	
evening set	1445 Jul 06 j 04:34	2° Ω 07'55		retrograde	1451 May 11 j 17:59	1° \approx 38'24	
					1451 Jun 13 j 13:22	30° \Re Υ	
conjunction	1445 Jul 19 j 18:00	5° Ω 06'44	0°33'52	opposition	1451 Jul 11 j 10:00	26° \Re 43'02	0°-37'-5
minimum elong	1445 Jul 19 j 17:58	5° Ω 06'42	0°33'53	min. Earth dist.	1451 Jul 12 j 03:41	26° \Re 37'19	4.08559 AU
max. Earth dist.	1445 Jul 20 j 12:56	5° Ω 17'09	6.33054 AU	direct	1451 Sep 09 j 12:04	21° \Re 48'08	
morning rise	1445 Aug 02 j 05:36	8° Ω 04'24			1451 Nov 24 j 00:55	0° \approx	
	1445 Sep 04 j 04:29	15° Ω		evening set	1452 Jan 12 j 16:26	10° \approx 57'28	
retrograde	1445 Dec 02 j 12:15	25° Ω 29'37					
opposition	1446 Jan 31 j 12:49	20° Ω 31'36	1°10'06	conjunction	1452 Jan 25 j 13:22	14° \approx 02'08	0°-42'-11
min. Earth dist.	1446 Jan 31 j 09:01	20° Ω 32'51	4.38401 AU	minimum elong	1452 Jan 25 j 13:20	14° \approx 02'07	0°42'13
direct	1446 Apr 02 j 22:08	15° Ω 28'41		max. Earth dist.	1452 Jan 25 j 02:04	13° \approx 55'22	6.02588 AU
	1446 Jul 23 j 17:17	0° \Re			1452 Jan 29 j 13:57	15° \approx	
evening set	1446 Aug 07 j 21:16	3° \Re 13'14		morning rise	1452 Feb 07 j 12:24	17° \approx 08'05	
					1452 Apr 06 j 19:01	0° \Re	
conjunction	1446 Aug 21 j 03:10	6° \Re 05'07	0°59'06	retrograde	1452 Jun 17 j 10:43	7° \Re 17'19	
minimum elong	1446 Aug 21 j 03:08	6° \Re 05'06	0°59'06	opposition	1452 Aug 16 j 16:07	2° \Re 18'13	-1°-24'-23
max. Earth dist.	1446 Aug 20 j 18:04	6° \Re 00'11	6.42346 AU	min. Earth dist.	1452 Aug 16 j 11:42	2° \Re 19'41	3.98084 AU
morning rise	1446 Sep 03 j 06:15	8° \Re 55'34			1452 Sep 03 j 19:45	30° \Re \approx	
retrograde	1447 Jan 01 j 17:39	25° \Re 47'29		direct	1452 Oct 14 j 09:20	27° \approx 24'37	
opposition	1447 Mar 03 j 02:03	20° \Re 52'53	1°34'58		1452 Nov 23 j 06:06	0° \Re	
min. Earth dist.	1447 Mar 03 j 16:49	20° \Re 48'06	4.44655 AU	evening set	1453 Feb 16 j 16:57	17° \Re 02'11	
direct	1447 May 04 j 11:08	15° \Re 50'04					
	1447 Aug 23 j 05:35	0° Ω		conjunction	1453 Mar 01 j 20:48	20° \Re 13'04	-1°-4'-23

minimum elong	1453 Mar 01 j 20:47	20° Υ 13'04	1°04'24	retrograde	1459 Jan 05 j 23:12	0° Ω 09'37	
max. Earth dist.	1453 Mar 02 j 19:38	20° Υ 26'54	5.95557 AU		1459 Jan 15 j 23:33	30° \mathbb{R} \mathbb{M}	
morning rise	1453 Mar 15 j 03:30	23° Υ 25'35		opposition	1459 Mar 07 j 09:42	25° \mathbb{M} 15'19	1°36'25
	1453 Apr 12 j 06:54	0° Υ		min. Earth dist.	1459 Mar 08 j 02:25	25° \mathbb{M} 09'55	4.45126 AU
retrograde	1453 Jul 25 j 16:13	14° Υ 06'30		direct	1459 May 08 j 20:45	20° \mathbb{M} 12'33	
min. Earth dist.	1453 Sep 22 j 11:01	9° Υ 11'48	3.95443 AU		1459 Aug 05 j 17:50	0° Ω	
opposition	1453 Sep 23 j 11:21	9° Υ 03'35	-1°-39'-50	evening set	1459 Sep 12 j 12:09	7° Ω 43'56	
direct	1453 Nov 20 j 09:23	4° Υ 09'19		max. Earth dist.	1459 Sep 23 j 22:22	10° Ω 12'13	6.44919 AU
evening set	1454 Mar 26 j 02:32	23° Υ 50'45					
conjunction	1454 Apr 08 j 14:17	27° Υ 04'25	-1°-1'-33	conjunction	1459 Sep 25 j 09:53	10° Ω 31'30	1°07'15
minimum elong	1454 Apr 08 j 14:19	27° Υ 04'27	1°01'34	minimum elong	1459 Sep 25 j 09:53	10° Ω 31'30	1°07'14
max. Earth dist.	1454 Apr 10 j 14:11	27° Υ 33'06	5.97459 AU	morning rise	1459 Oct 08 j 04:45	13° Ω 17'46	
	1454 Apr 20 j 20:13	0° \mathbb{X}			1460 Jan 28 j 15:37	0° \mathbb{M}	
morning rise	1454 Apr 22 j 05:09	0° \mathbb{X} 19'34		retrograde	1460 Feb 05 j 10:15	0° \mathbb{M} 05'41	
	1454 Jun 30 j 18:34	15° \mathbb{X}			1460 Feb 13 j 04:26	30° \mathbb{R} Ω	
retrograde	1454 Aug 31 j 16:26	20° \mathbb{X} 40'46		opposition	1460 Apr 06 j 03:51	25° Ω 13'23	1°32'00
min. Earth dist.	1454 Oct 28 j 19:21	15° \mathbb{X} 47'43	4.01734 AU	min. Earth dist.	1460 Apr 07 j 10:52	25° Ω 03'29	4.43036 AU
opposition	1454 Oct 30 j 06:33	15° \mathbb{X} 35'42	-1°-15'-33	direct	1460 Jun 07 j 22:27	20° Ω 11'51	
	1454 Nov 03 j 15:34	15° \mathbb{R} \mathbb{X}			1460 Sep 04 j 09:16	0° \mathbb{M}	
direct	1454 Dec 27 j 07:08	10° \mathbb{X} 38'49		evening set	1460 Oct 12 j 02:25	7° \mathbb{M} 50'21	
	1455 Feb 17 j 23:52	15° \mathbb{X}		max. Earth dist.	1460 Oct 22 j 17:56	10° \mathbb{M} 10'53	6.39231 AU
evening set	1455 May 02 j 12:45	29° \mathbb{X} 57'51		conjunction	1460 Oct 24 j 19:33	10° \mathbb{M} 38'17	0°54'53
	1455 May 02 j 16:28	0° \mathbb{I}		minimum elong	1460 Oct 24 j 19:35	10° \mathbb{M} 38'17	0°54'53
conjunction	1455 May 16 j 06:16	3° \mathbb{I} 09'31	0°-35'-3	morning rise	1460 Nov 06 j 10:45	13° \mathbb{M} 25'24	
minimum elong	1455 May 16 j 06:18	3° \mathbb{I} 09'33	0°35'04		1460 Nov 13 j 15:57	15° \mathbb{M}	
max. Earth dist.	1455 May 18 j 12:57	3° \mathbb{I} 41'23	6.07506 AU	retrograde	1461 Feb 15 j 05:11	0° \mathbb{X}	
morning rise	1455 May 30 j 01:22	6° \mathbb{I} 21'44			1461 Mar 08 j 03:29	0° \mathbb{X} 40'35	
retrograde	1455 Oct 05 j 12:29	25° \mathbb{I} 43'34			1461 Mar 29 j 01:42	30° \mathbb{R} \mathbb{M}	
min. Earth dist.	1455 Dec 02 j 18:38	20° \mathbb{I} 49'48	4.14337 AU	opposition	1461 May 08 j 01:12	25° \mathbb{M} 48'40	1°02'16
opposition	1455 Dec 04 j 01:48	20° \mathbb{I} 39'12	0°-24'-24	min. Earth dist.	1461 May 09 j 13:56	25° \mathbb{M} 36'57	4.34063 AU
direct	1456 Feb 01 j 01:42	15° \mathbb{I} 39'18		direct	1461 Jul 09 j 09:58	20° \mathbb{M} 49'05	
	1456 May 17 j 22:17	0° \mathbb{S}			1461 Oct 01 j 07:56	0° \mathbb{X}	
asc. node	1456 May 21 j 06:20	0° \mathbb{S} 43'20		evening set	1461 Nov 12 j 02:22	8° \mathbb{X} 50'53	
evening set	1456 Jun 06 j 16:42	4° \mathbb{S} 21'28		max. Earth dist.	1461 Nov 22 j 17:55	11° \mathbb{X} 15'24	6.27664 AU
conjunction	1456 Jun 20 j 10:22	7° \mathbb{S} 26'55	0°03'00	conjunction	1461 Nov 24 j 18:13	11° \mathbb{X} 42'49	0°26'38
minimum elong	1456 Jun 20 j 10:22	7° \mathbb{S} 26'55	0°02'59	minimum elong	1461 Nov 24 j 18:14	11° \mathbb{X} 42'50	0°26'37
behind sun begin	1456 Jun 20 j 02:02	7° \mathbb{S} 22'15		morning rise	1461 Dec 07 j 09:00	14° \mathbb{X} 34'33	
behind sun end	1456 Jun 20 j 18:41	7° \mathbb{S} 31'35		retrograde	1462 Feb 27 j 08:23	0° \mathbb{S}	
max. Earth dist.	1456 Jun 22 j 04:10	7° \mathbb{S} 50'28	6.21606 AU		1462 Apr 10 j 21:31	2° \mathbb{S} 42'18	
morning rise	1456 Jul 04 j 03:34	10° \mathbb{S} 31'52			1462 May 24 j 02:28	30° \mathbb{R} \mathbb{X}	
retrograde	1456 Nov 05 j 23:25	28° \mathbb{S} 44'41		opposition	1462 Jun 10 j 18:50	27° \mathbb{X} 49'13	0°12'23
opposition	1457 Jan 04 j 18:19	23° \mathbb{S} 43'20	0°31'38	min. Earth dist.	1462 Jun 12 j 02:18	27° \mathbb{X} 39'08	4.20560 AU
min. Earth dist.	1457 Jan 03 j 23:03	23° \mathbb{S} 49'48	4.28559 AU	direct	1462 Aug 11 j 02:25	22° \mathbb{X} 52'14	
direct	1457 Mar 06 j 01:09	18° \mathbb{S} 41'16		desc. node	1462 Sep 05 j 07:05	23° \mathbb{X} 51'19	
	1457 Jun 08 j 16:59	0° \mathbb{Q}			1462 Oct 21 j 08:22	0° \mathbb{S}	
evening set	1457 Jul 10 j 23:17	6° \mathbb{Q} 47'26		evening set	1462 Dec 14 j 09:50	11° \mathbb{S} 29'18	
conjunction	1457 Jul 24 j 11:38	9° \mathbb{Q} 45'02	0°38'21	max. Earth dist.	1462 Dec 25 j 16:23	14° \mathbb{S} 07'24	6.13382 AU
minimum elong	1457 Jul 24 j 11:36	9° \mathbb{Q} 45'00	0°38'21	conjunction	1462 Dec 27 j 03:05	14° \mathbb{S} 27'45	0°-11'-4
max. Earth dist.	1457 Jul 25 j 02:14	9° \mathbb{Q} 53'02	6.34852 AU	minimum elong	1462 Dec 27 j 03:04	14° \mathbb{S} 27'44	0°11'05
morning rise	1457 Aug 06 j 22:04	12° \mathbb{Q} 41'27		behind sun begin	1462 Dec 26 j 21:00	14° \mathbb{S} 24'12	
	1457 Aug 17 j 14:50	15° \mathbb{Q}		behind sun end	1462 Dec 27 j 09:08	14° \mathbb{S} 31'16	
retrograde	1457 Dec 06 j 20:47	29° \mathbb{Q} 59'38		morning rise	1463 Jan 08 j 21:09	17° \mathbb{S} 26'50	
opposition	1458 Feb 04 j 22:01	25° \mathbb{Q} 02'05	1°15'05		1463 Mar 09 j 04:02	0° \approx	
min. Earth dist.	1458 Feb 04 j 21:35	25° \mathbb{Q} 02'14	4.39863 AU	retrograde	1463 May 17 j 00:46	6° \approx 42'39	
direct	1458 Apr 07 j 12:43	19° \mathbb{Q} 59'04		opposition	1463 Jul 16 j 15:01	1° \approx 46'50	0°-44'-59
	1458 Jul 06 j 00:16	0° \mathbb{M}		min. Earth dist.	1463 Jul 17 j 05:51	1° \approx 42'00	4.06573 AU
evening set	1458 Aug 12 j 09:32	7° \mathbb{M} 40'08		direct	1463 Jul 30 j 15:23	30° \mathbb{R} \mathbb{S}	
conjunction	1458 Aug 25 j 14:21	10° \mathbb{M} 31'10	1°01'24		1463 Sep 14 j 12:22	26° \mathbb{S} 52'13	
minimum elong	1458 Aug 25 j 14:19	10° \mathbb{M} 31'09	1°01'24		1463 Oct 29 j 05:17	0° \approx	
max. Earth dist.	1458 Aug 25 j 01:17	10° \mathbb{M} 24'06	6.43333 AU	evening set	1464 Jan 12 j 23:35	15° \approx	
morning rise	1458 Sep 07 j 16:16	13° \mathbb{M} 20'46			1464 Jan 17 j 16:41	16° \approx 07'14	
	1458 Dec 26 j 22:43	0° Ω		conjunction	1464 Jan 30 j 14:36	19° \approx 13'01	0°-46'-34
				minimum elong	1464 Jan 30 j 14:34	19° \approx 13'00	0°46'35

max. Earth dist.	1464 Jan 30 j 09:09	19° 30 09'44	6.00988 AU		1469 Oct 17 j 11:32	0° 00	
morning rise	1464 Feb 12 j 14:31	22° 30 20'06		retrograde	1469 Dec 11 j 00:44	4° 00 22'05	
	1464 Mar 16 j 21:49	0° 00			1470 Feb 04 j 17:42	30° 00 R 0	
retrograde	1464 Jun 22 j 22:31	12° 00 37'02		opposition	1470 Feb 09 j 04:18	29° 00 25'04	1°19'30
opposition	1464 Aug 22 j 01:40	7° 00 37'26	-1°-28'-57	min. Earth dist.	1470 Feb 09 j 05:50	29° 00 24'34	4.41027 AU
min. Earth dist.	1464 Aug 21 j 18:18	7° 00 39'53	3.97085 AU	direct	1470 Apr 11 j 21:43	24° 00 22'03	
direct	1464 Oct 19 j 14:45	2° 00 43'59			1470 Jun 15 j 13:12	0° 00	
evening set	1465 Feb 21 j 23:59	22° 00 42'06		evening set	1470 Aug 16 j 18:58	12° 00 00'55	
conjunction	1465 Mar 07 j 04:48	25° 00 35'37	-1°-5'-37	conjunction	1470 Aug 29 j 22:36	14° 00 51'17	1°03'17
minimum elong	1465 Mar 07 j 04:47	25° 00 35'37	1°05'39	minimum elong	1470 Aug 29 j 22:35	14° 00 51'16	1°03'17
max. Earth dist.	1465 Mar 08 j 07:17	25° 00 35'39	5.95250 AU	max. Earth dist.	1470 Aug 29 j 04:52	14° 00 41'41	6.43917 AU
morning rise	1465 Mar 20 j 12:52	28° 00 48'51		morning rise	1470 Sep 11 j 23:29	17° 00 40'14	
	1465 Mar 25 j 11:43	0° 00 Y			1470 Nov 15 j 16:52	0° 00 Δ	
retrograde	1465 Jul 31 j 00:34	19° 00 Y30'00		retrograde	1471 Jan 10 j 05:07	4° 00 Δ27'43	
opposition	1465 Sep 28 j 19:39	14° 00 Y26'39	-1°-38'-40		1471 Mar 08 j 06:40	30° 00 R 0	
min. Earth dist.	1465 Sep 27 j 15:50	14° 00 Y36'04	3.95905 AU	opposition	1471 Mar 11 j 15:51	29° 00 33'51	1°37'22
direct	1465 Nov 25 j 16:19	9° 00 Y32'07		min. Earth dist.	1471 Mar 12 j 12:01	29° 00 27'20	4.45113 AU
evening set	1466 Mar 31 j 11:16	29° 00 Y11'18		direct	1471 May 13 j 05:51	24° 00 31'12	
	1466 Apr 03 j 21:12	0° 00 8			1471 Jul 16 j 06:14	0° 00 Δ	
conjunction	1466 Apr 14 j 00:06	2° 00 824'55	0°-59'-1	evening set	1471 Sep 16 j 19:10	12° 00 Δ03'18	
minimum elong	1466 Apr 14 j 00:08	2° 00 824'56	0°59'01	max. Earth dist.	1471 Sep 28 j 01:07	14° 00 Δ29'35	6.44295 AU
max. Earth dist.	1466 Apr 16 j 03:00	2° 00 855'18	5.98642 AU	conjunction	1471 Sep 29 j 16:10	14° 00 Δ50'49	1°06'35
morning rise	1466 Apr 27 j 15:43	5° 00 839'50		minimum elong	1471 Sep 29 j 16:10	14° 00 Δ50'49	1°06'34
	1466 Jun 08 j 04:16	15° 00 8		morning rise	1471 Oct 12 j 10:25	17° 00 Δ37'05	
retrograde	1466 Sep 05 j 18:53	25° 00 853'37			1471 Dec 16 j 02:57	0° 00 Δ	
min. Earth dist.	1466 Nov 02 j 21:42	21° 00 800'20	4.03478 AU	retrograde	1472 Feb 09 j 18:40	4° 00 Δ28'05	
opposition	1466 Nov 04 j 08:33	20° 00 848'26	-1°-9'-23		1472 Apr 07 j 09:49	30° 00 R 0 Δ	
direct	1467 Jan 01 j 12:30	15° 00 851'08		opposition	1472 Apr 10 j 13:14	29° 00 Δ35'56	1°29'17
	1467 Apr 15 j 07:45	0° 00 II		min. Earth dist.	1472 Apr 11 j 21:19	29° 00 Δ25'41	4.41862 AU
evening set	1467 May 07 j 17:48	5° 00 II04'19		direct	1472 Jun 12 j 06:40	24° 00 Δ34'36	
conjunction	1467 May 21 j 11:41	8° 00 II15'11	0°-30'-2		1472 Aug 14 j 15:52	0° 00 Δ	
minimum elong	1467 May 21 j 11:43	8° 00 II15'12	0°30'02	evening set	1472 Oct 16 j 10:18	12° 00 Δ16'35	
max. Earth dist.	1467 May 23 j 18:39	8° 00 II47'01	6.09646 AU	max. Earth dist.	1472 Oct 27 j 02:06	14° 00 Δ37'48	6.37599 AU
morning rise	1467 Jun 04 j 06:48	11° 00 II26'25			1472 Oct 28 j 18:08	15° 00 Δ	
	1467 Sep 20 j 16:36	0° 00 Δ		conjunction	1472 Oct 29 j 03:14	15° 00 Δ05'02	0°51'44
retrograde	1467 Oct 10 j 04:09	0° 00 Δ37'16		minimum elong	1472 Oct 29 j 03:16	15° 00 Δ05'03	0°51'45
	1467 Oct 29 j 12:35	30° 00 R 0 II		morning rise	1472 Nov 10 j 18:06	17° 00 Δ52'43	
opposition	1467 Dec 08 j 19:03	25° 00 II33'14	0°-16'-18		1473 Jan 11 j 01:48	0° 00 Δ	
min. Earth dist.	1467 Dec 07 j 12:19	25° 00 II43'40	4.16643 AU	retrograde	1473 Mar 12 j 19:14	5° 00 Δ14'57	
direct	1468 Feb 05 j 22:24	20° 00 II33'01		opposition	1473 May 12 j 17:05	0° 00 Δ23'01	0°56'13
asc. node	1468 Mar 30 j 22:20	24° 00 II54'09		min. Earth dist.	1473 May 14 j 05:55	0° 00 Δ11'17	4.32073 AU
	1468 Apr 29 j 09:35	0° 00 Δ			1473 May 15 j 17:25	30° 00 R 0 Δ	
evening set	1468 Jun 11 j 14:57	9° 00 Δ08'45		direct	1473 Jul 13 j 23:14	25° 00 Δ23'50	
conjunction	1468 Jun 25 j 07:57	12° 00 Δ12'58	0°08'23		1473 Sep 09 j 02:23	0° 00 Δ	
minimum elong	1468 Jun 25 j 07:56	12° 00 Δ12'57	0°08'23	evening set	1473 Nov 16 j 14:28	13° 00 Δ30'59	
behind sun begin	1468 Jun 25 j 00:40	12° 00 Δ08'54		max. Earth dist.	1473 Nov 27 j 06:06	15° 00 Δ56'21	6.25479 AU
behind sun end	1468 Jun 25 j 15:12	12° 00 Δ17'00		conjunction	1473 Nov 29 j 06:15	16° 00 Δ23'49	0°21'37
max. Earth dist.	1468 Jun 26 j 20:50	12° 00 Δ33'38	6.23880 AU	minimum elong	1473 Nov 29 j 06:16	16° 00 Δ23'50	0°21'37
morning rise	1468 Jul 09 j 00:28	15° 00 Δ16'35		morning rise	1473 Dec 11 j 21:30	19° 00 Δ16'37	
	1468 Sep 24 j 12:55	0° 00 Δ			1474 Jan 31 j 21:50	0° 00 Δ	
retrograde	1468 Nov 10 j 09:15	3° 00 Δ19'47		retrograde	1474 Apr 15 j 22:16	7° 00 Δ34'11	
	1468 Dec 27 j 08:19	30° 00 R 0 Δ		opposition	1474 Jun 15 j 18:38	2° 00 Δ40'46	0°04'14
opposition	1469 Jan 09 j 04:35	28° 00 Δ18'58	0°38'45	min. Earth dist.	1474 Jun 16 j 23:46	2° 00 Δ31'25	4.18338 AU
min. Earth dist.	1469 Jan 08 j 12:47	28° 00 Δ24'15	4.30602 AU		1474 Jul 07 j 20:40	30° 00 R 0 Δ	
direct	1469 Mar 10 j 17:23	23° 00 Δ16'40		desc. node	1474 Jul 15 j 02:42	29° 00 Δ16'25	
	1469 May 19 j 21:29	0° 00 Δ		direct	1474 Aug 15 j 21:32	27° 00 Δ44'07	
evening set	1469 Jul 15 j 13:58	11° 00 Δ17'58			1474 Sep 23 j 09:32	0° 00 Δ	
conjunction	1469 Jul 29 j 01:28	14° 00 Δ14'30	0°42'28	evening set	1474 Dec 19 j 04:28	16° 00 Δ27'11	
minimum elong	1469 Jul 29 j 01:26	14° 00 Δ14'29	0°42'27	conjunction	1474 Dec 31 j 22:22	19° 00 Δ26'43	0°-16'-36
max. Earth dist.	1469 Jul 29 j 12:42	14° 00 Δ20'38	6.36501 AU	minimum elong	1474 Dec 31 j 22:21	19° 00 Δ26'43	0°16'37
	1469 Aug 01 j 12:39	15° 00 Δ		max. Earth dist.	1474 Dec 30 j 16:45	19° 00 Δ09'17	6.11339 AU
morning rise	1469 Aug 11 j 10:37	17° 00 Δ09'45		morning rise	1475 Jan 13 j 16:59	22° 00 Δ26'57	

	1475 Feb 16 j 05:09	0°♊		opposition	1481 Jan 13 j 14:03	2°♌51'37	0°45'35
retrograde	1475 May 22 j 09:30	11°♊52'25		min. Earth dist.	1481 Jan 13 j 00:11	2°♌56'14	4.32302 AU
opposition	1475 Jul 21 j 21:39	6°♊56'07	0°-52'-39		1481 Feb 05 j 11:23	30°♋♌	
min. Earth dist.	1475 Jul 22 j 09:38	6°♊52'13	4.04911 AU	direct	1481 Mar 15 j 06:34	27°♌49'10	
direct	1475 Sep 19 j 13:56	2°♊01'47			1481 Apr 22 j 13:14	0°♌	
	1475 Dec 26 j 10:22	15°♊			1481 Jul 16 j 13:51	15°♌	
evening set	1476 Jan 22 j 18:33	21°♊21'02		evening set	1481 Jul 20 j 04:22	15°♌46'45	
conjunction	1476 Feb 04 j 17:08	24°♊27'39	0°-50'-36	conjunction	1481 Aug 02 j 14:41	18°♌42'18	0°46'19
minimum elong	1476 Feb 04 j 17:06	24°♊27'38	0°50'37	minimum elong	1481 Aug 02 j 14:39	18°♌42'17	0°46'18
max. Earth dist.	1476 Feb 04 j 15:24	24°♊26'37	5.99838 AU	max. Earth dist.	1481 Aug 02 j 20:06	18°♌45'16	6.37797 AU
morning rise	1476 Feb 17 j 18:14	27°♊35'44		morning rise	1481 Aug 15 j 22:52	21°♌36'36	
	1476 Feb 27 j 21:19	0°♋			1481 Sep 25 j 19:55	0°♍	
retrograde	1476 Jun 28 j 07:34	17°♋57'59		retrograde	1481 Dec 15 j 07:34	8°♍44'16	
opposition	1476 Aug 27 j 10:57	12°♋57'44	-1°-32'-44	opposition	1482 Feb 13 j 11:03	3°♍47'46	1°23'29
min. Earth dist.	1476 Aug 26 j 23:17	13°♋01'37	3.96592 AU	min. Earth dist.	1482 Feb 13 j 16:18	3°♍46'03	4.41858 AU
direct	1476 Oct 24 j 20:20	8°♋04'12			1482 Mar 18 j 11:54	30°♋♌	
evening set	1477 Feb 27 j 06:26	27°♋44'50		direct	1482 Apr 16 j 08:45	28°♌44'41	
	1477 Mar 08 j 14:36	0°♎			1482 May 15 j 12:34	0°♍	
				evening set	1482 Aug 21 j 04:43	16°♍22'17	
conjunction	1477 Mar 12 j 12:25	0°♎56'45	-1°-6'-18	max. Earth dist.	1482 Sep 02 j 11:09	19°♍01'08	6.44214 AU
minimum elong	1477 Mar 12 j 12:25	0°♎56'45	1°06'19				
max. Earth dist.	1477 Mar 13 j 20:08	1°♎15'56	5.95440 AU	conjunction	1482 Sep 03 j 07:31	19°♍12'10	1°04'50
morning rise	1477 Mar 25 j 21:27	4°♎10'20		minimum elong	1482 Sep 03 j 07:30	19°♍12'09	1°04'50
retrograde	1477 Aug 05 j 08:28	24°♎49'30		morning rise	1482 Sep 16 j 07:16	22°♍00'35	
min. Earth dist.	1477 Oct 02 j 21:15	19°♎55'26	3.96750 AU		1482 Oct 25 j 09:53	0°♏	
opposition	1477 Oct 04 j 01:59	19°♎45'41	-1°-36'-41	retrograde	1483 Jan 14 j 10:30	8°♏47'32	
direct	1477 Nov 30 j 23:39	14°♎50'48		opposition	1483 Mar 15 j 23:10	3°♏54'01	1°37'48
	1478 Mar 17 j 16:40	0°♐		min. Earth dist.	1483 Mar 16 j 20:33	3°♏47'08	4.44888 AU
evening set	1478 Apr 05 j 18:11	4°♐26'29			1483 Apr 19 j 19:17	30°♋♍	
				direct	1483 May 17 j 13:15	28°♍51'33	
conjunction	1478 Apr 19 j 07:57	7°♐39'52	0°-56'-1		1483 Jun 14 j 13:24	0°♏	
minimum elong	1478 Apr 19 j 07:59	7°♐39'53	0°56'03	evening set	1483 Sep 21 j 03:06	16°♏24'50	
max. Earth dist.	1478 Apr 21 j 13:15	8°♐11'32	6.00049 AU	max. Earth dist.	1483 Oct 02 j 06:18	18°♏49'59	6.43561 AU
morning rise	1478 May 03 j 00:21	10°♐54'27					
	1478 May 20 j 15:45	15°♐		conjunction	1483 Oct 03 j 23:19	19°♏12'20	1°05'32
	1478 Aug 16 j 23:06	0°♑		minimum elong	1483 Oct 03 j 23:20	19°♏12'21	1°05'31
retrograde	1478 Sep 10 j 17:35	0°♑59'49		morning rise	1483 Oct 16 j 16:57	21°♏58'40	
	1478 Oct 05 j 06:38	30°♋♐			1483 Nov 24 j 15:40	0°♑	
min. Earth dist.	1478 Nov 07 j 20:11	26°♐06'43	4.05294 AU	retrograde	1484 Feb 14 j 06:05	8°♑53'08	
opposition	1478 Nov 09 j 07:32	25°♐54'40	-1°-2'-50	opposition	1484 Apr 15 j 00:29	4°♑01'12	1°26'01
direct	1479 Jan 06 j 13:03	20°♐56'56		min. Earth dist.	1484 Apr 16 j 10:22	3°♑50'24	4.40667 AU
	1479 Mar 27 j 08:07	0°♑			1484 May 21 j 18:24	30°♋♑	
evening set	1479 May 12 j 20:47	10°♑04'31		direct	1484 Jun 16 j 17:59	29°♏00'13	
					1484 Jul 12 j 17:53	0°♑	
conjunction	1479 May 26 j 14:46	13°♑14'31	0°-24'-51		1484 Oct 12 j 18:45	15°♑	
minimum elong	1479 May 26 j 14:47	13°♑14'32	0°24'53	evening set	1484 Oct 20 j 19:22	16°♑45'28	
max. Earth dist.	1479 May 28 j 18:32	13°♑44'22	6.11705 AU	max. Earth dist.	1484 Oct 31 j 09:33	19°♑06'23	6.36046 AU
morning rise	1479 Jun 09 j 09:58	16°♑24'48					
	1479 Aug 15 j 02:43	0°♒		conjunction	1484 Nov 02 j 11:58	19°♑34'26	0°48'16
retrograde	1479 Oct 14 j 19:00	5°♒25'27		minimum elong	1484 Nov 02 j 12:00	19°♑34'27	0°48'15
min. Earth dist.	1479 Dec 12 j 06:03	0°♒31'24	4.18732 AU	morning rise	1484 Nov 15 j 02:47	22°♑22'43	
opposition	1479 Dec 13 j 10:25	0°♒21'47	0°-8'-14		1484 Dec 21 j 02:32	0°♓	
	1479 Dec 16 j 02:42	30°♋♑		retrograde	1485 Mar 17 j 11:58	9°♓51'48	
asc. node	1480 Feb 08 j 19:15	25°♑21'33		opposition	1485 May 17 j 10:15	4°♓59'46	0°49'44
direct	1480 Feb 10 j 19:09	25°♑21'09		min. Earth dist.	1485 May 18 j 21:39	4°♓48'29	4.30274 AU
	1480 Apr 06 j 21:39	0°♒		direct	1485 Jul 18 j 12:33	0°♓00'59	
evening set	1480 Jun 16 j 11:18	13°♒51'25		evening set	1485 Nov 21 j 03:21	18°♓12'47	
				max. Earth dist.	1485 Dec 01 j 22:42	20°♓40'52	6.23613 AU
conjunction	1480 Jun 30 j 03:56	16°♒54'35	0°13'39	conjunction	1485 Dec 03 j 19:20	21°♓06'27	0°16'27
minimum elong	1480 Jun 30 j 03:55	16°♒54'34	0°13'40	minimum elong	1485 Dec 03 j 19:21	21°♓06'28	0°16'28
behind sun begin	1480 Jun 29 j 23:38	16°♒52'11		morning rise	1485 Dec 16 j 10:44	24°♓00'07	
behind sun end	1480 Jun 30 j 08:12	16°♒56'57			1486 Jan 12 j 12:15	0°♓	
max. Earth dist.	1480 Jul 01 j 14:33	17°♒13'55	6.25850 AU	retrograde	1486 Apr 20 j 23:45	12°♓26'23	
morning rise	1480 Jul 13 j 19:29	19°♒56'59		desc. node	1486 May 24 j 11:20	10°♓44'52	
	1480 Aug 31 j 11:28	0°♓		opposition	1486 Jun 20 j 18:48	7°♓32'43	0°-3'-56

min. Earth dist.	1486 Jun 21 j 22:14	7°  23'54	4.16543 AU	conjunction	1492 Jul 04 j 21:17	21°  31'14	0°18'42
direct	1486 Aug 20 j 17:33	2°  36'32		minimum elong	1492 Jul 04 j 21:15	21°  31'13	0°18'42
evening set	1486 Dec 23 j 22:54	21°  24'01		max. Earth dist.	1492 Jul 06 j 02:47	21°  347'39	6.27430 AU
				morning rise	1492 Jul 18 j 12:12	24°  32'39	
conjunction	1487 Jan 05 j 17:07	24°  24'23	0°-21'-58		1492 Aug 12 j 21:00	0° 	
minimum elong	1487 Jan 05 j 17:06	24°  24'23	0°21'59	retrograde	1492 Nov 19 j 01:06	12°  20'47	
max. Earth dist.	1487 Jan 04 j 14:07	24°  08'27	6.09773 AU	opposition	1493 Jan 17 j 21:56	7°  21'02	0°51'58
morning rise	1487 Jan 18 j 12:34	27°  25'38		min. Earth dist.	1493 Jan 17 j 10:55	7°  24'42	4.33608 AU
	1487 Jan 29 j 13:44	0° 		direct	1493 Mar 19 j 18:29	2°  18'24	
	1487 Apr 21 j 16:17	15° 			1493 Jun 29 j 23:21	15° 	
retrograde	1487 May 27 j 14:08	16°  59'02		evening set	1493 Jul 24 j 17:12	20°  13'32	
	1487 Jul 02 j 16:50	15° 					
opposition	1487 Jul 27 j 02:51	12°  02'11	0°-59'-45	conjunction	1493 Aug 07 j 02:44	23°  08'20	0°49'48
min. Earth dist.	1487 Jul 27 j 10:31	11°  59'40	4.03730 AU	minimum elong	1493 Aug 07 j 02:41	23°  08'18	0°49'48
direct	1487 Sep 24 j 13:59	7°  08'06		max. Earth dist.	1493 Aug 07 j 05:45	23°  09'59	6.38748 AU
	1487 Dec 06 j 19:35	15° 		morning rise	1493 Aug 20 j 09:37	26°  01'45	
evening set	1488 Jan 27 j 18:36	26°  30'00			1493 Sep 08 j 01:47	0° 	
				retrograde	1493 Dec 19 j 12:44	13°  05'54	
conjunction	1488 Feb 09 j 18:05	29°  37'17	0°-54'-8	opposition	1494 Feb 17 j 17:26	8°  09'54	1°26'56
minimum elong	1488 Feb 09 j 18:02	29°  37'16	0°54'09	min. Earth dist.	1494 Feb 18 j 00:20	8°  07'38	4.42419 AU
max. Earth dist.	1488 Feb 09 j 22:05	29°  39'42	5.99150 AU	direct	1494 Apr 20 j 17:08	3°  06'52	
	1488 Feb 11 j 07:45	0° 		evening set	1494 Aug 25 j 14:02	20°  04'42	
morning rise	1488 Feb 22 j 19:57	2°  46'03					
retrograde	1488 Jul 03 j 15:35	23°  11'47		conjunction	1494 Sep 07 j 15:42	23°  03'06	1°05'59
opposition	1488 Sep 01 j 17:01	18°  11'00	-1°-35'-36	minimum elong	1494 Sep 07 j 15:41	23°  03'05	1°05'58
min. Earth dist.	1488 Sep 01 j 03:29	18°  15'31	3.96483 AU	max. Earth dist.	1494 Sep 06 j 15:10	23°  19'49	6.44336 AU
direct	1488 Oct 30 j 01:21	13°  17'25		morning rise	1494 Sep 20 j 14:37	26°  01'07	
	1489 Feb 19 j 23:34	0° 			1494 Oct 07 j 19:48	0° 	
evening set	1489 Mar 04 j 10:00	2°  57'26		retrograde	1495 Jan 18 j 18:26	13°  07'58	
				opposition	1495 Mar 20 j 06:51	8°  14'43	1°37'39
conjunction	1489 Mar 17 j 16:59	6°  09'37	-1°-6'-25	min. Earth dist.	1495 Mar 21 j 06:50	8°  07'00	4.44586 AU
minimum elong	1489 Mar 17 j 17:00	6°  09'37	1°06'25	direct	1495 May 21 j 23:01	3°  12'20	
max. Earth dist.	1489 Mar 19 j 04:18	6°  30'55	5.95899 AU	evening set	1495 Sep 25 j 10:44	20°  46'35	
morning rise	1489 Mar 31 j 03:07	9°  23'27		max. Earth dist.	1495 Oct 06 j 12:19	23°  11'07	6.42848 AU
retrograde	1489 Aug 10 j 10:30	29°  59'24					
min. Earth dist.	1489 Oct 07 j 21:17	25°  05'39	3.97750 AU	conjunction	1495 Oct 08 j 06:24	23°  34'07	1°04'05
opposition	1489 Oct 09 j 03:49	24°  55'18	-1°-33'-57	minimum elong	1495 Oct 08 j 06:25	23°  34'07	1°04'06
direct	1489 Dec 06 j 00:36	20°  00'06		morning rise	1495 Oct 20 j 23:22	26°  20'28	
	1490 Feb 27 j 08:02	0° 			1495 Nov 07 j 01:49	0° 	
evening set	1490 Apr 10 j 21:18	9°  32'14		retrograde	1496 Feb 18 j 15:23	13°  18'04	
				opposition	1496 Apr 19 j 11:30	8°  26'07	1°22'13
conjunction	1490 Apr 24 j 11:46	12°  45'18	0°-52'-42	min. Earth dist.	1496 Apr 20 j 21:01	8°  15'26	4.39586 AU
minimum elong	1490 Apr 24 j 11:49	12°  45'19	0°52'43	direct	1496 Jun 21 j 02:44	3°  25'22	
max. Earth dist.	1490 Apr 26 j 16:15	13°  16'22	6.01470 AU		1496 Sep 26 j 01:03	15° 	
	1490 May 03 j 23:41	15° 		evening set	1496 Oct 25 j 03:47	21°  13'10	
morning rise	1490 May 08 j 04:56	15°  59'32		max. Earth dist.	1496 Nov 04 j 18:22	23°  34'47	6.34662 AU
	1490 Jul 13 j 21:59	0° 					
retrograde	1490 Sep 15 j 12:12	5°  25'56		conjunction	1496 Nov 06 j 20:02	24°  02'32	0°44'30
min. Earth dist.	1490 Nov 12 j 16:09	1°  03'35	4.06967 AU	minimum elong	1496 Nov 06 j 20:04	24°  02'33	0°44'29
opposition	1490 Nov 14 j 02:34	0°  51'51	0°-56'-4	morning rise	1496 Nov 19 j 10:42	26°  51'18	
	1490 Nov 20 j 11:27	30° 			1496 Dec 03 j 18:34	0° 	
direct	1491 Jan 11 j 11:49	25°  53'41		retrograde	1497 Mar 22 j 05:33	14°  26'34	
	1491 Mar 03 j 22:30	0° 		opposition	1497 May 22 j 02:56	9°  23'42	0°42'56
evening set	1491 May 17 j 19:56	14°  25'30		min. Earth dist.	1497 May 23 j 14:40	9°  22'58	4.28632 AU
				direct	1497 Jul 23 j 03:12	4°  23'52	
conjunction	1491 May 31 j 14:14	18°  05'48	0°-19'-42	evening set	1497 Nov 25 j 14:59	22°  25'13	
minimum elong	1491 May 31 j 14:16	18°  05'49	0°19'43	max. Earth dist.	1497 Dec 06 j 11:06	25°  20'43	6.21830 AU
max. Earth dist.	1491 Jun 02 j 17:08	18°  35'01	6.13507 AU				
morning rise	1491 Jun 14 j 09:09	21°  15'10		conjunction	1497 Dec 08 j 07:03	25°  24'00	0°11'13
	1491 Jul 24 j 19:46	0° 		minimum elong	1497 Dec 08 j 07:03	25°  24'00	0°11'14
retrograde	1491 Oct 19 j 07:53	10°  06'58		behind sun begin	1497 Dec 08 j 01:06	25°  24'35	
opposition	1491 Dec 17 j 22:44	5°  03'45	0°00'-25	behind sun end	1497 Dec 08 j 13:01	25°  24'24	
min. Earth dist.	1491 Dec 16 j 20:13	5°  12'43	4.20492 AU	morning rise	1497 Dec 20 j 22:53	28°  24'03	
asc. node	1491 Dec 20 j 22:57	4°  39'22			1497 Dec 26 j 18:15	0° 	
direct	1492 Feb 15 j 11:19	0° 		desc. node	1498 Apr 03 j 07:01	16°  27'31	
evening set	1492 Jun 21 j 05:23	18°  29'02		retrograde	1498 Apr 25 j 22:05	17°  25'18	
				opposition	1498 Jun 25 j 17:34	12°  21'12	0°-12'-4

min. Earth dist.	1498 Jun 26 j 18:02	12°☾13'19	4.14737 AU	evening set	1504 Jun 26 j 01:59	23°☾12'38	
direct	1498 Aug 25 j 10:44	7°☾25'19					
evening set	1498 Dec 28 j 16:18	26°☾17'29		conjunction	1504 Jul 09 j 17:16	26°☾13'48	0°23'47
				minimum elong	1504 Jul 09 j 17:15	26°☾13'47	0°23'46
conjunction	1499 Jan 10 j 11:06	29°☾18'48	0°-27'-9	max. Earth dist.	1504 Jul 10 j 20:42	26°☾29'01	6.29235 AU
minimum elong	1499 Jan 10 j 11:04	29°☾18'47	0°27'10	morning rise	1504 Jul 23 j 07:06	29°☾14'02	
max. Earth dist.	1499 Jan 09 j 12:34	29°☾05'27	6.08101 AU		1504 Jul 26 j 18:54	0°♈	
	1499 Jan 13 j 08:34	0°♈			1504 Oct 19 j 09:25	15°♈	
morning rise	1499 Jan 23 j 07:08	2°♈21'03		retrograde	1504 Nov 23 j 11:11	16°♈54'37	
	1499 Mar 23 j 06:11	15°♈			1504 Dec 28 j 07:30	15°♈♈	
retrograde	1499 Jun 01 j 20:28	22°♈02'52		opposition	1505 Jan 22 j 08:17	11°♈55'29	0°58'11
opposition	1499 Aug 01 j 06:56	17°♈05'30	-1°-6'-27	min. Earth dist.	1505 Jan 21 j 23:19	11°♈58'27	4.35281 AU
min. Earth dist.	1499 Aug 01 j 12:47	17°♈03'35	4.02342 AU	direct	1505 Mar 24 j 09:10	6°♈52'50	
	1499 Aug 17 j 18:50	15°♈♈			1505 Jun 11 j 02:27	15°♈	
direct	1499 Sep 29 j 14:48	12°♈11'33		evening set	1505 Jul 29 j 07:38	24°♈43'57	
	1499 Nov 10 j 12:14	15°♈					
	1500 Jan 25 j 23:35	0°♈		conjunction	1505 Aug 11 j 15:54	27°♈37'42	0°53'05
evening set	1500 Feb 01 j 18:29	1°♈37'12		minimum elong	1505 Aug 11 j 15:52	27°♈37'41	0°53'05
				max. Earth dist.	1505 Aug 11 j 14:49	27°♈37'07	6.40175 AU
conjunction	1500 Feb 14 j 18:52	4°♈45'21	0°-57'-17		1505 Aug 22 j 14:02	0°♈	
minimum elong	1500 Feb 14 j 18:50	4°♈45'19	0°57'18	morning rise	1505 Aug 24 j 21:42	0°♈30'05	
max. Earth dist.	1500 Feb 15 j 02:42	4°♈50'04	5.98167 AU	retrograde	1505 Dec 23 j 18:45	17°♈29'12	
morning rise	1500 Feb 27 j 21:55	7°♈55'02		opposition	1506 Feb 22 j 00:45	12°♈33'37	1°29'56
retrograde	1500 Jul 08 j 22:50	28°♈25'17		min. Earth dist.	1506 Feb 22 j 09:56	12°♈30'37	4.43539 AU
opposition	1500 Sep 06 j 22:52	23°♈24'00	-1°-37'-48	direct	1506 Apr 25 j 03:49	7°♈30'38	
min. Earth dist.	1500 Sep 06 j 06:04	23°♈29'38	3.96044 AU	evening set	1506 Aug 29 j 22:48	25°♈04'41	
direct	1500 Nov 04 j 03:15	18°♈30'19					
	1501 Feb 02 j 02:17	0°♈		conjunction	1506 Sep 11 j 23:33	27°♈53'24	1°06'47
evening set	1501 Mar 09 j 14:37	8°♈11'18		minimum elong	1506 Sep 11 j 23:32	27°♈53'24	1°06'47
				max. Earth dist.	1506 Sep 10 j 21:51	27°♈39'29	6.45070 AU
conjunction	1501 Mar 22 j 22:40	11°♈23'56	-1°-6'00		1506 Sep 21 j 17:40	0°♈	
minimum elong	1501 Mar 22 j 22:40	11°♈23'56	1°06'01	morning rise	1506 Sep 24 j 21:14	0°♈40'41	
max. Earth dist.	1501 Mar 24 j 12:13	11°♈46'34	5.96021 AU	retrograde	1507 Jan 22 j 22:34	17°♈25'39	
morning rise	1501 Apr 05 j 09:59	14°♈38'13		opposition	1507 Mar 24 j 13:27	12°♈32'41	1°36'58
	1501 Jun 17 j 12:35	0°♈		min. Earth dist.	1507 Mar 25 j 14:21	12°♈24'41	4.44890 AU
retrograde	1501 Aug 15 j 13:58	5°♈12'17		direct	1507 May 26 j 06:08	7°♈30'32	
min. Earth dist.	1501 Oct 12 j 23:20	0°♈18'37	3.98413 AU	evening set	1507 Sep 29 j 16:01	25°♈03'42	
opposition	1501 Oct 14 j 06:58	0°♈07'52	-1°-30'-30	max. Earth dist.	1507 Oct 10 j 13:59	27°♈26'27	6.42683 AU
	1501 Oct 15 j 06:06	30°♈♈					
direct	1501 Dec 11 j 04:19	25°♈12'18		conjunction	1507 Oct 12 j 10:48	27°♈50'58	1°02'21
	1502 Feb 04 j 09:16	0°♈		minimum elong	1507 Oct 12 j 10:49	27°♈50'59	1°02'21
evening set	1502 Apr 16 j 02:44	14°♈42'15			1507 Oct 22 j 06:57	0°♈	
	1502 Apr 17 j 08:59	15°♈		morning rise	1507 Oct 25 j 03:16	0°♈37'11	
					1508 Jan 12 j 02:44	15°♈	
conjunction	1502 Apr 29 j 18:15	17°♈55'13	0°-48'-56	retrograde	1508 Feb 23 j 00:16	17°♈36'35	
minimum elong	1502 Apr 29 j 18:18	17°♈55'15	0°48'56		1508 Apr 05 j 09:10	15°♈♈	
max. Earth dist.	1502 May 02 j 01:03	18°♈27'34	6.02624 AU	opposition	1508 Apr 23 j 20:11	12°♈44'42	1°18'04
morning rise	1502 May 13 j 11:55	21°♈09'10		min. Earth dist.	1508 Apr 25 j 07:39	12°♈33'23	4.38931 AU
	1502 Jun 22 j 04:25	0°♈		direct	1508 Jun 25 j 11:46	7°♈44'09	
retrograde	1502 Sep 20 j 11:17	10°♈59'21			1508 Sep 07 j 13:56	15°♈	
opposition	1502 Nov 18 j 23:52	5°♈54'27	0°-48'-45	evening set	1508 Oct 29 j 08:31	25°♈33'13	
min. Earth dist.	1502 Nov 17 j 14:10	6°♈05'56	4.08474 AU	max. Earth dist.	1508 Nov 08 j 22:15	27°♈54'43	6.33562 AU
direct	1503 Jan 16 j 12:04	0°♈55'56					
evening set	1503 May 22 j 22:23	19°♈54'41		conjunction	1508 Nov 11 j 00:36	28°♈22'55	0°40'37
				minimum elong	1508 Nov 11 j 00:38	28°♈22'56	0°40'36
conjunction	1503 Jun 05 j 16:38	23°♈03'13	0°-14'-16		1508 Nov 18 j 06:00	0°♈	
minimum elong	1503 Jun 05 j 16:39	23°♈03'14	0°14'16	morning rise	1508 Nov 23 j 15:07	1°♈12'05	
behind sun begin	1503 Jun 05 j 12:59	23°♈01'09		retrograde	1509 Mar 26 j 16:56	18°♈52'58	
behind sun end	1503 Jun 05 j 20:18	23°♈05'19		opposition	1509 May 26 j 15:40	14°♈00'34	0°36'07
max. Earth dist.	1503 Jun 07 j 17:01	23°♈30'53	6.15243 AU	min. Earth dist.	1509 May 28 j 02:22	13°♈49'30	4.27136 AU
morning rise	1503 Jun 19 j 11:32	26°♈11'46		direct	1509 Jul 27 j 11:35	9°♈02'22	
	1503 Jul 06 j 12:33	0°♈		evening set	1509 Nov 29 j 22:58	27°♈21'54	
retrograde	1503 Oct 23 j 21:52	14°♈54'48		max. Earth dist.	1509 Dec 10 j 20:45	29°♈52'35	6.20057 AU
asc. node	1503 Oct 30 j 04:31	14°♈50'51			1509 Dec 11 j 09:34	0°♈	
opposition	1503 Dec 22 j 13:50	9°♈52'02	0°07'37				
min. Earth dist.	1503 Dec 21 j 12:29	10°♈00'36	4.22310 AU	conjunction	1509 Dec 12 j 15:10	0°♈17'06	0°06'07
direct	1504 Feb 20 j 06:07	4°♈50'52		minimum elong	1509 Dec 12 j 15:11	0°♈17'06	0°06'07

behind sun begin	1509 Dec 12 j 07:36	0°☾12'45		retrograde	1515 Oct 28 j 13:49	19°☾44'08	
behind sun end	1509 Dec 12 j 22:45	0°☾21'28		min. Earth dist.	1515 Dec 26 j 06:23	14°☾49'31	4.24257 AU
morning rise	1509 Dec 25 j 07:21	3°☾12'34		opposition	1515 Dec 27 j 05:35	14°☾41'42	0°15'39
desc. node	1510 Feb 13 j 05:06	13°☾52'07		direct	1516 Feb 25 j 03:09	9°☾40'11	
retrograde	1510 Apr 30 j 19:16	21°☾56'12		evening set	1516 Jun 30 j 22:59	27°☾56'41	
opposition	1510 Jun 30 j 12:46	17°☾01'45	0°-19'-52		1516 Jul 10 j 06:47	0°♈	
min. Earth dist.	1510 Jul 01 j 12:51	16°☾53'58	4.12787 AU				
direct	1510 Aug 30 j 02:42	12°☾06'05		conjunction	1516 Jul 14 j 13:24	0°♊56'42	0°28'44
	1510 Dec 28 j 17:57	0°♋		minimum elong	1516 Jul 14 j 13:22	0°♊56'41	0°28'44
evening set	1511 Jan 02 j 06:32	1°♋03'53		max. Earth dist.	1516 Jul 15 j 13:38	1°♊10'05	6.31118 AU
max. Earth dist.	1511 Jan 14 j 05:36	3°♋54'12	6.06151 AU	morning rise	1516 Jul 28 j 02:13	3°♊55'40	
					1516 Sep 21 j 05:09	15°♊	
conjunction	1511 Jan 15 j 02:00	4°♋06'20	0°-32'00	retrograde	1516 Nov 27 j 18:49	21°♊28'19	
minimum elong	1511 Jan 15 j 01:58	4°♋06'19	0°32'00	opposition	1517 Jan 26 j 18:32	16°♊29'35	1°04'04
morning rise	1511 Jan 27 j 22:57	7°♋09'49		min. Earth dist.	1517 Jan 26 j 11:21	16°♊31'57	4.36941 AU
	1511 Mar 03 j 09:56	15°♋			1517 Feb 07 j 05:34	15°♋♊	
retrograde	1511 Jun 06 j 23:14	27°♋01'21		direct	1517 Mar 28 j 23:17	11°♊26'43	
opposition	1511 Aug 06 j 08:17	22°♋03'30	-1°-12'-30		1517 May 17 j 23:30	15°♊	
min. Earth dist.	1511 Aug 06 j 10:59	22°♋02'37	4.00590 AU	evening set	1517 Aug 02 j 21:49	29°♊13'52	
direct	1511 Oct 04 j 10:21	17°♋09'41			1517 Aug 06 j 11:22	0°♋	
	1512 Jan 09 j 01:35	0°♌					
evening set	1512 Feb 06 j 16:55	6°♌40'51		conjunction	1517 Aug 16 j 05:00	2°♋06'38	0°56'05
				minimum elong	1517 Aug 16 j 04:58	2°♋06'37	0°56'05
conjunction	1512 Feb 19 j 18:17	9°♌50'05	0°-59'-55	max. Earth dist.	1517 Aug 16 j 00:40	2°♋04'17	6.41460 AU
minimum elong	1512 Feb 19 j 18:16	9°♌50'04	0°59'56	morning rise	1517 Aug 29 j 09:28	4°♋57'58	
max. Earth dist.	1512 Feb 20 j 05:26	9°♌56'50	5.96771 AU	retrograde	1517 Dec 28 j 01:20	21°♋52'42	
morning rise	1512 Mar 03 j 22:33	13°♌00'57		opposition	1518 Feb 26 j 08:39	16°♋57'33	1°32'29
	1512 May 26 j 10:41	0°♍		min. Earth dist.	1518 Feb 26 j 20:29	16°♋53'43	4.44359 AU
retrograde	1512 Jul 14 j 05:05	3°♍37'30		direct	1518 Apr 29 j 15:01	11°♋54'38	
	1512 Sep 01 j 12:55	30°♌♋		evening set	1518 Sep 03 j 08:10	29°♋26'53	
min. Earth dist.	1512 Sep 11 j 08:26	28°♌42'06	3.95167 AU		1518 Sep 05 j 21:48	0°♎	
opposition	1512 Sep 12 j 03:35	28°♌35'40	-1°-39'-12	max. Earth dist.	1518 Sep 15 j 01:27	1°♎58'39	6.45333 AU
direct	1512 Nov 09 j 05:23	23°♌41'47					
	1513 Jan 12 j 01:00	0°♍		conjunction	1518 Sep 16 j 07:48	2°♎15'04	1°07'15
evening set	1513 Mar 14 j 19:31	13°♍25'36		minimum elong	1518 Sep 16 j 07:48	2°♎15'04	1°07'16
				morning rise	1518 Sep 29 j 04:40	5°♎01'55	
conjunction	1513 Mar 28 j 05:00	16°♍38'59	-1°-5'-3	retrograde	1519 Jan 27 j 06:50	21°♎46'45	
minimum elong	1513 Mar 28 j 05:01	16°♍38'59	1°05'04	opposition	1519 Mar 28 j 22:06	16°♎54'00	1°35'48
max. Earth dist.	1513 Mar 29 j 23:30	17°♍04'35	5.95764 AU	min. Earth dist.	1519 Mar 30 j 01:24	16°♎45'14	4.44593 AU
morning rise	1513 Apr 10 j 17:26	19°♍53'54		direct	1519 May 30 j 16:02	11°♎51'58	
	1513 May 25 j 11:23	0°♏		evening set	1519 Oct 03 j 23:35	29°♎26'06	
retrograde	1513 Aug 20 j 20:01	10°♏27'05			1519 Oct 06 j 13:55	0°♏	
min. Earth dist.	1513 Oct 18 j 01:42	5°♏33'32	3.98809 AU	max. Earth dist.	1519 Oct 14 j 20:28	1°♏48'33	6.41842 AU
opposition	1513 Oct 19 j 10:23	5°♏22'24	-1°-26'-19				
direct	1513 Dec 16 j 08:07	0°♏26'28		conjunction	1519 Oct 16 j 17:56	2°♏13'29	1°00'14
	1514 Mar 31 j 00:30	15°♏		minimum elong	1519 Oct 16 j 17:58	2°♏13'30	1°00'14
evening set	1514 Apr 21 j 09:35	19°♏55'05		morning rise	1519 Oct 29 j 09:45	4°♏59'50	
					1519 Dec 17 j 21:23	15°♏	
conjunction	1514 May 05 j 01:49	23°♏07'58	0°-44'-43	retrograde	1520 Feb 27 j 11:06	22°♏03'18	
minimum elong	1514 May 05 j 01:52	23°♏08'00	0°44'44	opposition	1520 Apr 28 j 08:30	17°♏11'27	1°13'22
max. Earth dist.	1514 May 07 j 09:04	23°♏40'28	6.03621 AU	min. Earth dist.	1520 Apr 29 j 20:15	17°♏00'04	4.37594 AU
morning rise	1514 May 18 j 20:20	26°♏21'45			1520 May 16 j 03:59	15°♏♏	
	1514 Jun 03 j 15:49	0°♐		direct	1520 Jun 29 j 21:33	12°♏11'14	
retrograde	1514 Sep 25 j 08:28	16°♐04'47			1520 Aug 13 j 06:28	15°♏	
min. Earth dist.	1514 Nov 22 j 11:36	11°♐11'38	4.09945 AU	evening set	1520 Nov 02 j 17:52	0°♐03'53	
opposition	1514 Nov 23 j 22:01	10°♐59'54	0°-41'-2		1520 Nov 02 j 10:53	0°♐	
direct	1515 Jan 21 j 12:37	6°♐00'53		max. Earth dist.	1520 Nov 13 j 06:43	2°♐25'32	6.31824 AU
evening set	1515 May 28 j 01:48	24°♐55'18					
				conjunction	1520 Nov 15 j 09:41	2°♐54'12	0°36'19
conjunction	1515 Jun 10 j 20:02	28°♐03'00	0°-8'-41	minimum elong	1520 Nov 15 j 09:42	2°♐54'13	0°36'20
minimum elong	1515 Jun 10 j 20:03	28°♐03'00	0°08'41	morning rise	1520 Nov 28 j 00:21	5°♐44'08	
behind sun begin	1515 Jun 10 j 12:51	27°♐58'55		retrograde	1521 Mar 31 j 13:36	23°♐33'00	
behind sun end	1515 Jun 11 j 03:15	28°♐07'05		opposition	1521 May 31 j 10:48	18°♐40'27	0°28'43
max. Earth dist.	1515 Jun 12 j 19:14	28°♐29'52	6.17061 AU	min. Earth dist.	1521 Jun 01 j 21:39	18°♐29'18	4.25086 AU
	1515 Jun 19 j 09:48	0°♑		direct	1521 Aug 01 j 03:58	13°♐42'35	
morning rise	1515 Jun 24 j 14:29	1°♑10'31			1521 Nov 25 j 05:23	0°♑	
asc. node	1515 Sep 07 j 15:13	15°♑49'23		evening set	1521 Dec 04 j 13:07	2°♑07'43	

max. Earth dist.	1521 Dec 15 j 13:26	4°☾40'35	6.17878 AU	conjunction	1527 Jun 15 j 20:35	2°☾56'13	0°-3'-12
				minimum elong	1527 Jun 15 j 20:36	2°☾56'14	0°03'13
conjunction	1521 Dec 17 j 05:46	5°☾04'00	0°00'37	behind sun begin	1527 Jun 15 j 12:16	2°☾51'33	
minimum elong	1521 Dec 17 j 05:45	5°☾03'59	0°00'36	behind sun end	1527 Jun 16 j 04:55	3°☾00'55	
behind sun begin	1521 Dec 16 j 21:46	4°☾59'23		max. Earth dist.	1527 Jun 17 j 17:53	3°☾21'52	6.19405 AU
behind sun end	1521 Dec 17 j 13:44	5°☾08'36		morning rise	1527 Jun 29 j 14:29	6°☾02'27	
desc. node	1521 Dec 23 j 06:50	6°☾28'12		asc. node	1527 Jul 18 j 05:53	10°☾09'13	
morning rise	1521 Dec 29 j 22:25	8°☾00'35		retrograde	1527 Nov 01 j 23:40	24°☾25'28	
retrograde	1522 May 05 j 22:05	26°☾54'36		opposition	1527 Dec 31 j 17:54	19°☾23'30	0°23'17
opposition	1522 Jul 05 j 15:20	21°☾59'48	0°-28'-5	min. Earth dist.	1527 Dec 30 j 20:00	19°☾30'52	4.26496 AU
min. Earth dist.	1522 Jul 06 j 12:26	21°☾52'59	4.10665 AU	direct	1528 Feb 29 j 19:25	14°☾21'44	
direct	1522 Sep 03 j 23:09	17°☾04'32			1528 Jun 23 j 22:35	0°♈	
	1522 Dec 11 j 12:14	0°♈		evening set	1528 Jul 05 j 16:05	2°♈32'31	
evening set	1523 Jan 07 j 04:27	6°♈08'31					
max. Earth dist.	1523 Jan 19 j 07:56	9°♈02'10	6.04280 AU	conjunction	1528 Jul 19 j 05:32	5°♈31'18	0°33'21
				minimum elong	1528 Jul 19 j 05:30	5°♈31'17	0°33'21
conjunction	1523 Jan 20 j 00:31	9°♈12'04	0°-36'-56	max. Earth dist.	1528 Jul 20 j 00:44	5°♈41'52	6.33074 AU
minimum elong	1523 Jan 20 j 00:29	9°♈12'03	0°36'57	morning rise	1528 Aug 01 j 17:17	8°♈29'00	
morning rise	1523 Feb 01 j 22:26	12°♈16'47			1528 Sep 01 j 14:59	15°♈	
	1523 Feb 13 j 11:56	15°♈		retrograde	1528 Dec 02 j 01:46	25°♈54'17	
	1523 May 04 j 19:41	0°♈		opposition	1529 Jan 31 j 01:55	20°♈56'06	1°09'23
retrograde	1523 Jun 12 j 10:02	2°♈17'35		min. Earth dist.	1529 Jan 30 j 22:28	20°♈57'14	4.38472 AU
	1523 Jul 21 j 03:57	30°♈		direct	1529 Apr 02 j 12:00	15°♈53'09	
opposition	1523 Aug 11 j 16:44	27°♈19'13	-1°-18'-24		1529 Jul 21 j 06:51	0°♈	
min. Earth dist.	1523 Aug 11 j 16:18	27°♈19'22	3.99177 AU	evening set	1529 Aug 07 j 08:35	3°♈36'56	
direct	1523 Oct 09 j 14:48	22°♈25'34					
	1523 Dec 19 j 18:13	0°♈		conjunction	1529 Aug 20 j 14:43	6°♈28'52	0°58'41
evening set	1524 Feb 11 j 22:06	12°♈00'46		minimum elong	1529 Aug 20 j 14:41	6°♈28'51	0°58'40
				max. Earth dist.	1529 Aug 20 j 05:56	6°♈24'07	6.42437 AU
conjunction	1524 Feb 25 j 00:43	15°♈10'55	-1°-2'-15	morning rise	1529 Sep 02 j 18:03	9°♈19'22	
minimum elong	1524 Feb 25 j 00:41	15°♈10'54	1°02'15	retrograde	1530 Jan 01 j 05:09	26°♈11'08	
max. Earth dist.	1524 Feb 25 j 18:15	15°♈21'32	5.95977 AU	opposition	1530 Mar 02 j 14:17	21°♈16'22	1°34'29
morning rise	1524 Mar 09 j 06:04	18°♈22'40		min. Earth dist.	1530 Mar 03 j 04:23	21°♈11'47	4.44754 AU
	1524 Apr 30 j 05:22	0°♈		direct	1530 May 03 j 22:36	16°♈13'28	
retrograde	1524 Jul 19 j 16:46	9°♈02'18			1530 Aug 20 j 20:37	0°♈	
opposition	1524 Sep 17 j 13:08	4°♈00'00	-1°-39'-50	evening set	1530 Sep 07 j 15:27	3°♈45'23	
min. Earth dist.	1524 Sep 16 j 15:24	4°♈07'19	3.95132 AU	max. Earth dist.	1530 Sep 19 j 05:34	6°♈15'35	6.45114 AU
	1524 Oct 22 j 13:21	30°♈					
direct	1524 Nov 14 j 12:34	29°♈06'03		conjunction	1530 Sep 20 j 14:17	6°♈33'19	1°07'22
	1524 Dec 07 j 11:29	0°♈		minimum elong	1530 Sep 20 j 14:17	6°♈33'19	1°07'21
evening set	1525 Mar 20 j 04:32	18°♈49'13		morning rise	1530 Oct 03 j 10:13	9°♈19'55	
				retrograde	1531 Jan 31 j 13:43	26°♈06'18	
conjunction	1525 Apr 02 j 14:58	22°♈02'45	-1°-3'-35	opposition	1531 Apr 02 j 05:57	21°♈13'47	1°34'10
minimum elong	1525 Apr 02 j 15:00	22°♈02'46	1°03'35	min. Earth dist.	1531 Apr 03 j 11:21	21°♈04'23	4.43781 AU
max. Earth dist.	1525 Apr 04 j 11:59	22°♈29'48	5.96474 AU	direct	1531 Jun 04 j 00:22	16°♈11'59	
morning rise	1525 Apr 16 j 04:39	25°♈17'51			1531 Sep 20 j 11:35	0°♈	
	1525 May 06 j 06:56	0°♈		evening set	1531 Oct 08 j 06:37	3°♈48'36	
	1525 Aug 04 j 10:03	15°♈		max. Earth dist.	1531 Oct 18 j 23:54	6°♈09'38	6.40485 AU
retrograde	1525 Aug 26 j 00:00	15°♈45'43					
	1525 Sep 16 j 10:37	15°♈		conjunction	1531 Oct 21 j 00:24	6°♈36'19	0°57'48
min. Earth dist.	1525 Oct 23 j 04:03	10°♈52'41	4.00194 AU	minimum elong	1531 Oct 21 j 00:25	6°♈36'20	0°57'48
opposition	1525 Oct 24 j 14:51	10°♈40'49	-1°-21'-24	morning rise	1531 Nov 02 j 16:04	9°♈23'07	
direct	1525 Dec 21 j 13:33	5°♈44'29			1531 Nov 29 j 01:17	15°♈	
	1526 Mar 11 j 15:57	15°♈		retrograde	1532 Mar 03 j 01:00	26°♈32'30	
evening set	1526 Apr 26 j 16:41	25°♈08'12		opposition	1532 May 02 j 22:02	21°♈40'37	1°08'15
				min. Earth dist.	1532 May 04 j 10:32	21°♈28'59	4.35773 AU
conjunction	1526 May 10 j 09:33	28°♈20'28	0°-40'-13	direct	1532 Jul 04 j 09:14	16°♈40'39	
minimum elong	1526 May 10 j 09:36	28°♈20'30	0°40'14		1532 Oct 16 j 23:38	0°♈	
max. Earth dist.	1526 May 12 j 17:15	28°♈53'05	6.05552 AU	evening set	1532 Nov 07 j 04:05	4°♈38'16	
	1526 May 17 j 11:41	0°♈		max. Earth dist.	1532 Nov 17 j 18:45	7°♈01'35	6.29699 AU
morning rise	1526 May 24 j 04:17	1°♈33'27					
retrograde	1526 Sep 30 j 05:00	21°♈06'01		conjunction	1532 Nov 19 j 20:03	7°♈29'26	0°31'47
min. Earth dist.	1526 Nov 27 j 09:36	16°♈12'27	4.12179 AU	minimum elong	1532 Nov 19 j 20:05	7°♈29'27	0°31'47
opposition	1526 Nov 28 j 18:18	16°♈01'19	0°-33'-10	morning rise	1532 Dec 02 j 10:43	10°♈20'17	
direct	1527 Jan 26 j 13:44	11°♈01'54		retrograde	1533 Apr 05 j 10:22	28°♈18'24	
evening set	1527 Jun 02 j 02:35	29°♈49'40		opposition	1533 Jun 05 j 07:54	23°♈25'38	0°21'02
	1527 Jun 02 j 20:56	0°♈		min. Earth dist.	1533 Jun 06 j 16:58	23°♈15'04	4.22807 AU

direct	1533 Aug 05 j 20:20	18° ♂ 28'12		direct	1539 Jan 31 j 10:29	15° ♂ 56'20	
desc. node	1533 Nov 01 j 03:04	28° ♂ 37'16			1539 May 16 j 23:56	0° ♂	
	1533 Nov 07 j 19:35	0° ♂		asc. node	1539 May 28 j 00:21	2° ♂ 24'08	
evening set	1533 Dec 09 j 05:46	6° ♂ 59'31		evening set	1539 Jun 07 j 01:23	4° ♂ 38'14	
max. Earth dist.	1533 Dec 20 j 08:35	9° ♂ 34'40	6.15645 AU				
conjunction	1533 Dec 21 j 22:35	9° ♂ 56'50	0°-5'00	conjunction	1539 Jun 20 j 18:53	7° ♂ 43'40	0°02'22
minimum elong	1533 Dec 21 j 22:35	9° ♂ 56'50	0°05'01	minimum elong	1539 Jun 20 j 18:53	7° ♂ 43'40	0°02'21
behind sun begin	1533 Dec 21 j 14:48	9° ♂ 52'19		behind sun begin	1539 Jun 20 j 10:32	7° ♂ 38'59	
behind sun end	1533 Dec 22 j 06:22	10° ♂ 01'21		behind sun end	1539 Jun 21 j 03:14	7° ♂ 48'21	
morning rise	1534 Jan 03 j 15:58	12° ♂ 54'40		max. Earth dist.	1539 Jun 22 j 11:31	8° ♂ 06'34	6.21528 AU
	1534 Apr 05 j 03:43	0° ♂		morning rise	1539 Jul 04 j 12:14	10° ♂ 48'42	
retrograde	1534 May 11 j 04:48	1° ♂ 59'06		retrograde	1539 Nov 06 j 10:37	29° ♂ 02'27	
	1534 Jun 16 j 11:19	30° ♂		min. Earth dist.	1540 Jan 04 j 10:29	24° ♂ 07'15	4.28426 AU
opposition	1534 Jul 10 j 20:23	27° ♂ 03'49	0°-36'-13	opposition	1540 Jan 05 j 05:03	24° ♂ 01'01	0°30'42
min. Earth dist.	1534 Jul 11 j 14:28	26° ♂ 57'57	4.08666 AU	direct	1540 Mar 05 j 12:19	18° ♂ 59'00	
direct	1534 Sep 08 j 23:44	22° ♂ 08'50			1540 Jun 06 j 14:15	0° ♂	
	1534 Nov 21 j 17:24	0° ♂		evening set	1540 Jul 10 j 08:12	7° ♂ 05'21	
evening set	1535 Jan 12 j 04:18	11° ♂ 18'08		conjunction	1540 Jul 23 j 20:50	10° ♂ 03'06	0°37'44
conjunction	1535 Jan 25 j 01:17	14° ♂ 22'43	0°-41'-38	minimum elong	1540 Jul 23 j 20:48	10° ♂ 03'05	0°37'44
minimum elong	1535 Jan 25 j 01:15	14° ♂ 22'42	0°41'40	max. Earth dist.	1540 Jul 24 j 12:52	10° ♂ 11'54	6.34669 AU
max. Earth dist.	1535 Jan 24 j 14:44	14° ♂ 16'24	6.02712 AU	morning rise	1540 Aug 06 j 07:21	12° ♂ 59'41	
	1535 Jan 27 j 15:30	15° ♂			1540 Aug 15 j 14:00	15° ♂	
morning rise	1535 Feb 07 j 00:01	17° ♂ 28'31			1540 Nov 22 j 06:45	0° ♂	
	1535 Apr 05 j 10:38	0° ♂		retrograde	1540 Dec 06 j 06:45	0° ♂ 18'58	
retrograde	1535 Jun 17 j 21:32	7° ♂ 36'47			1540 Dec 20 j 06:51	30° ♂	
opposition	1535 Aug 17 j 02:27	2° ♂ 37'49	-1°-23'-40	opposition	1541 Feb 04 j 08:57	25° ♂ 21'21	1°14'19
min. Earth dist.	1535 Aug 16 j 22:44	2° ♂ 39'03	3.98226 AU	min. Earth dist.	1541 Feb 04 j 07:23	25° ♂ 21'52	4.39648 AU
	1535 Sep 07 j 03:09	30° ♂		direct	1541 Apr 06 j 21:48	20° ♂ 18'23	
direct	1535 Oct 14 j 20:14	27° ♂ 44'17			1541 Jul 03 j 16:35	0° ♂	
	1535 Nov 21 j 00:33	0° ♂		evening set	1541 Aug 11 j 19:33	8° ♂ 00'04	
evening set	1536 Feb 17 j 04:11	17° ♂ 21'26		max. Earth dist.	1541 Aug 24 j 11:04	10° ♂ 44'00	6.43102 AU
conjunction	1536 Mar 01 j 07:38	20° ♂ 32'07	-1°-4'-3	conjunction	1541 Aug 25 j 00:31	10° ♂ 51'17	1°00'58
minimum elong	1536 Mar 01 j 07:37	20° ♂ 32'06	1°04'04	minimum elong	1541 Aug 25 j 00:29	10° ♂ 51'16	1°00'58
max. Earth dist.	1536 Mar 02 j 04:47	20° ♂ 44'56	5.95694 AU	morning rise	1541 Sep 07 j 02:48	13° ♂ 41'06	
morning rise	1536 Mar 14 j 14:16	23° ♂ 44'30			1541 Dec 18 j 08:34	0° ♂	
	1536 Apr 10 j 08:06	0° ♂		retrograde	1542 Jan 05 j 11:52	0° ♂ 31'01	
retrograde	1536 Jul 25 j 00:39	14° ♂ 24'34			1542 Jan 23 j 12:50	30° ♂	
opposition	1536 Sep 22 j 21:24	9° ♂ 21'45	-1°-39'-35	opposition	1542 Mar 06 j 21:07	25° ♂ 36'43	1°36'00
min. Earth dist.	1536 Sep 21 j 20:15	9° ♂ 30'14	3.95567 AU	min. Earth dist.	1542 Mar 07 j 14:35	25° ♂ 31'03	4.44885 AU
direct	1536 Nov 19 j 19:25	4° ♂ 27'32		direct	1542 May 08 j 08:37	20° ♂ 33'56	
evening set	1537 Mar 25 j 12:27	24° ♂ 08'23			1542 Aug 03 j 06:19	0° ♂	
conjunction	1537 Apr 08 j 00:00	27° ♂ 21'54	-1°-1'-36	evening set	1542 Sep 11 j 23:29	8° ♂ 06'14	
minimum elong	1537 Apr 08 j 00:02	27° ♂ 21'55	1°01'36	max. Earth dist.	1542 Sep 23 j 09:31	10° ♂ 34'29	6.44684 AU
max. Earth dist.	1537 Apr 10 j 00:13	27° ♂ 50'47	5.97568 AU	conjunction	1542 Sep 24 j 21:32	10° ♂ 54'01	1°07'05
	1537 Apr 19 j 00:27	0° ♂		minimum elong	1542 Sep 24 j 21:32	10° ♂ 54'02	1°07'05
morning rise	1537 Apr 21 j 14:26	0° ♂ 36'50		morning rise	1542 Oct 07 j 16:44	13° ♂ 40'31	
	1537 Jun 28 j 11:08	15° ♂			1543 Jan 18 j 06:43	0° ♂	
retrograde	1537 Aug 31 j 02:48	20° ♂ 57'55		retrograde	1543 Feb 04 j 22:02	0° ♂ 29'14	
min. Earth dist.	1537 Oct 28 j 06:32	16° ♂ 04'35	4.01803 AU		1543 Feb 22 j 14:11	30° ♂	
opposition	1537 Oct 29 j 16:54	15° ♂ 52'51	-1°-15'-54	opposition	1543 Apr 06 j 15:31	25° ♂ 36'55	1°31'59
	1537 Nov 05 j 04:48	15° ♂		min. Earth dist.	1543 Apr 07 j 21:56	25° ♂ 27'12	4.42843 AU
direct	1537 Dec 26 j 18:35	10° ♂ 56'05		direct	1543 Jun 08 j 09:08	20° ♂ 35'22	
	1538 Feb 15 j 12:12	15° ♂			1543 Sep 02 j 18:47	0° ♂	
	1538 Apr 30 j 20:35	0° ♂		evening set	1543 Oct 12 j 15:02	8° ♂ 14'50	
evening set	1538 May 01 j 21:33	0° ♂ 14'28		max. Earth dist.	1543 Oct 23 j 08:25	10° ♂ 36'23	6.39119 AU
conjunction	1538 May 15 j 14:55	3° ♂ 26'03	0°-35'-28	conjunction	1543 Oct 25 j 08:27	11° ♂ 02'55	0°55'00
minimum elong	1538 May 15 j 14:58	3° ♂ 26'05	0°35'29	minimum elong	1543 Oct 25 j 08:29	11° ♂ 02'56	0°55'01
max. Earth dist.	1538 May 17 j 22:47	3° ♂ 58'35	6.07526 AU	morning rise	1543 Nov 06 j 23:40	13° ♂ 50'08	
morning rise	1538 May 29 j 09:52	6° ♂ 38'13			1543 Nov 12 j 07:26	15° ♂	
retrograde	1538 Oct 04 j 21:40	26° ♂ 00'29			1544 Feb 09 j 23:35	0° ♂	
min. Earth dist.	1538 Dec 02 j 03:52	21° ♂ 07'04	4.14316 AU	retrograde	1544 Mar 07 j 15:42	1° ♂ 05'28	
opposition	1538 Dec 03 j 12:10	20° ♂ 56'06	0°-25'-12	opposition	1544 Apr 03 j 09:51	30° ♂	
					1544 May 07 j 13:06	26° ♂ 13'40	1°02'38

min. Earth dist.	1544 May 09 j 01:48	26° \mathbb{M} 01'59	4.34072 AU		1550 Apr 13 j 23:49	0° \mathbb{I}	
direct	1544 Jul 08 j 22:19	21° \mathbb{M} 14'08		evening set	1550 May 06 j 22:39	5° \mathbb{I} 11'37	
	1544 Sep 28 j 15:37	0° \mathcal{A}					
evening set	1544 Nov 11 j 15:43	9° \mathcal{A} 16'15		conjunction	1550 May 20 j 16:16	8° \mathbb{I} 22'31	0°-30'-38
max. Earth dist.	1544 Nov 22 j 06:12	11° \mathcal{A} 40'11	6.27810 AU	minimum elong	1550 May 20 j 16:18	8° \mathbb{I} 22'32	0°30'39
				max. Earth dist.	1550 May 22 j 21:09	8° \mathbb{I} 53'11	6.09340 AU
conjunction	1544 Nov 24 j 07:30	12° \mathcal{A} 08'10	0°27'01	morning rise	1550 Jun 03 j 11:26	11° \mathbb{I} 33'53	
minimum elong	1544 Nov 24 j 07:32	12° \mathcal{A} 08'11	0°27'00		1550 Sep 17 j 14:23	0° \mathcal{B}	
morning rise	1544 Dec 06 j 22:31	14° \mathcal{A} 59'54		retrograde	1550 Oct 09 j 11:49	0° \mathcal{B} 46'53	
	1545 Feb 23 j 14:32	0° \mathcal{B}			1550 Oct 31 j 05:10	30° \mathbb{R} \mathbb{I}	
retrograde	1545 Apr 10 j 09:08	3° \mathcal{B} 06'36		min. Earth dist.	1550 Dec 06 j 20:34	25° \mathbb{I} 52'59	4.16167 AU
	1545 May 27 j 01:19	30° \mathbb{R} \mathcal{A}		opposition	1550 Dec 08 j 02:33	25° \mathbb{I} 42'48	0°-17'-22
opposition	1545 Jun 10 j 06:09	28° \mathcal{A} 13'34	0°13'07	direct	1551 Feb 05 j 05:57	20° \mathbb{I} 42'37	
min. Earth dist.	1545 Jun 11 j 13:08	28° \mathcal{A} 03'39	4.20867 AU	asc. node	1551 Apr 08 j 00:44	26° \mathbb{I} 17'22	
direct	1545 Aug 10 j 14:31	23° \mathcal{A} 16'32			1551 Apr 28 j 18:26	0° \mathcal{B}	
desc. node	1545 Sep 10 j 08:07	24° \mathcal{A} 43'39		evening set	1551 Jun 11 j 21:04	9° \mathcal{B} 19'50	
	1545 Oct 18 j 14:55	0° \mathcal{B}					
evening set	1545 Dec 13 j 22:28	11° \mathcal{B} 52'47		conjunction	1551 Jun 25 j 14:23	12° \mathcal{B} 24'23	0°07'37
max. Earth dist.	1545 Dec 25 j 06:37	14° \mathcal{B} 31'36	6.13846 AU	minimum elong	1551 Jun 25 j 14:23	12° \mathcal{B} 24'23	0°07'37
				behind sun begin	1551 Jun 25 j 06:52	12° \mathcal{B} 20'11	
conjunction	1545 Dec 26 j 15:49	14° \mathcal{B} 51'02	0°-10'-30	behind sun end	1551 Jun 25 j 21:54	12° \mathcal{B} 28'35	
minimum elong	1545 Dec 26 j 15:48	14° \mathcal{B} 51'01	0°10'30	max. Earth dist.	1551 Jun 27 j 04:56	12° \mathcal{B} 46'01	6.23293 AU
behind sun begin	1545 Dec 26 j 09:29	14° \mathcal{B} 47'20		morning rise	1551 Jul 09 j 06:56	15° \mathcal{B} 28'20	
behind sun end	1545 Dec 26 j 22:07	14° \mathcal{B} 54'42			1551 Sep 23 j 04:21	0° \mathcal{Q}	
morning rise	1546 Jan 08 j 09:35	17° \mathcal{B} 49'50		retrograde	1551 Nov 10 j 18:55	3° \mathcal{Q} 34'14	
	1546 Mar 06 j 14:48	0° \mathcal{Q}			1551 Dec 29 j 15:27	30° \mathbb{R} \mathcal{B}	
retrograde	1546 May 16 j 10:43	7° \mathcal{Q} 03'01		opposition	1552 Jan 09 j 14:02	28° \mathcal{B} 33'21	0°37'42
opposition	1546 Jul 16 j 00:47	2° \mathcal{Q} 07'19	0°-44'00	min. Earth dist.	1552 Jan 08 j 21:14	28° \mathcal{B} 38'59	4.29969 AU
min. Earth dist.	1546 Jul 16 j 16:08	2° \mathcal{Q} 02'19	4.07176 AU	direct	1552 Mar 10 j 00:41	23° \mathcal{B} 31'10	
	1546 Aug 01 j 22:02	30° \mathbb{R} \mathcal{B}			1552 May 17 j 17:49	0° \mathcal{Q}	
direct	1546 Sep 13 j 23:17	27° \mathcal{B} 12'40		evening set	1552 Jul 14 j 22:30	11° \mathcal{Q} 34'16	
	1546 Oct 26 j 02:38	0° \mathcal{Q}					
	1547 Jan 11 j 03:08	15° \mathcal{Q}		conjunction	1552 Jul 28 j 10:05	14° \mathcal{Q} 31'08	0°41'48
evening set	1547 Jan 17 j 03:20	16° \mathcal{Q} 25'31		minimum elong	1552 Jul 28 j 10:03	14° \mathcal{Q} 31'07	0°41'47
				max. Earth dist.	1552 Jul 28 j 20:37	14° \mathcal{Q} 36'54	6.35878 AU
conjunction	1547 Jan 30 j 00:50	19° \mathcal{Q} 30'50	0°-45'-57		1552 Jul 30 j 14:48	15° \mathcal{Q}	
minimum elong	1547 Jan 30 j 00:47	19° \mathcal{Q} 30'49	0°45'57	morning rise	1552 Aug 10 j 19:43	17° \mathcal{Q} 26'48	
max. Earth dist.	1547 Jan 29 j 17:36	19° \mathcal{Q} 26'30	6.01652 AU		1552 Oct 14 j 19:57	0° \mathbb{M}	
morning rise	1547 Feb 12 j 00:36	22° \mathcal{Q} 37'31		retrograde	1552 Dec 10 j 13:36	4° \mathbb{M} 41'31	
	1547 Mar 16 j 01:13	0° \mathcal{H}			1553 Feb 06 j 16:04	30° \mathbb{R} \mathcal{Q}	
retrograde	1547 Jun 23 j 03:35	12° \mathcal{H} 51'02		opposition	1553 Feb 08 j 15:37	29° \mathcal{Q} 44'23	1°18'43
opposition	1547 Aug 22 j 09:07	7° \mathcal{H} 51'29	-1°-28'-5	min. Earth dist.	1553 Feb 08 j 17:27	29° \mathcal{Q} 43'47	4.40470 AU
min. Earth dist.	1547 Aug 22 j 01:22	7° \mathcal{H} 54'03	3.97731 AU	direct	1553 Apr 11 j 08:42	24° \mathcal{Q} 41'20	
direct	1547 Oct 19 j 23:14	2° \mathcal{H} 57'56			1553 Jun 12 j 20:29	0° \mathbb{M}	
evening set	1548 Feb 22 j 07:30	22° \mathcal{H} 35'38		evening set	1553 Aug 16 j 05:31	12° \mathbb{M} 21'42	
conjunction	1548 Mar 06 j 12:05	25° \mathcal{H} 46'44	-1°-5'-16	conjunction	1553 Aug 29 j 09:39	15° \mathbb{M} 12'24	1°02'51
minimum elong	1548 Mar 06 j 12:04	25° \mathcal{H} 46'43	1°05'17	minimum elong	1553 Aug 29 j 09:38	15° \mathbb{M} 12'24	1°02'51
max. Earth dist.	1548 Mar 07 j 14:27	26° \mathcal{H} 02'41	5.95800 AU	max. Earth dist.	1553 Aug 28 j 18:00	15° \mathbb{M} 03'56	6.43479 AU
morning rise	1548 Mar 19 j 19:36	28° \mathcal{H} 59'29		morning rise	1553 Sep 11 j 10:45	18° \mathbb{M} 01'38	
	1548 Mar 24 j 00:48	0° \mathcal{Y}			1553 Nov 12 j 17:36	0° \mathcal{L}	
retrograde	1548 Jul 30 j 06:49	19° \mathcal{Y} 38'23		retrograde	1554 Jan 09 j 16:36	4° \mathcal{L} 50'28	
min. Earth dist.	1548 Sep 26 j 23:37	14° \mathcal{Y} 43'55	3.96265 AU		1554 Mar 10 j 17:03	30° \mathbb{R} \mathbb{M}	
opposition	1548 Sep 28 j 01:38	14° \mathcal{Y} 35'07	-1°-38'-29	opposition	1554 Mar 11 j 03:53	29° \mathbb{M} 56'30	1°36'56
direct	1548 Nov 25 j 00:20	9° \mathcal{Y} 40'35		min. Earth dist.	1554 Mar 11 j 22:21	29° \mathbb{M} 50'32	4.44831 AU
evening set	1549 Mar 30 j 16:27	29° \mathcal{Y} 18'24		direct	1554 May 12 j 15:54	24° \mathbb{M} 53'51	
	1549 Apr 02 j 14:25	0° \mathcal{Z}			1554 Jul 13 j 06:01	0° \mathcal{L}	
				evening set	1554 Sep 16 j 07:25	12° \mathcal{L} 26'44	
conjunction	1549 Apr 13 j 04:57	2° \mathcal{Z} 31'48	0°-59'-10	max. Earth dist.	1554 Sep 27 j 14:37	14° \mathcal{L} 53'42	6.44202 AU
minimum elong	1549 Apr 13 j 04:59	2° \mathcal{Z} 31'49	0°59'11				
max. Earth dist.	1549 Apr 15 j 07:22	3° \mathcal{Z} 01'53	5.98774 AU	conjunction	1554 Sep 29 j 04:35	15° \mathcal{L} 14'22	1°06'25
morning rise	1549 Apr 26 j 20:18	5° \mathcal{Z} 46'32		minimum elong	1554 Sep 29 j 04:36	15° \mathcal{L} 14'22	1°06'24
	1549 Jun 06 j 19:59	15° \mathcal{Z}		morning rise	1554 Oct 11 j 23:06	18° \mathcal{L} 00'46	
retrograde	1549 Sep 05 j 00:08	26° \mathcal{Z} 00'25			1554 Dec 13 j 00:56	0° \mathbb{M}	
min. Earth dist.	1549 Nov 02 j 03:29	21° \mathcal{Z} 07'16	4.03387 AU	retrograde	1555 Feb 09 j 07:53	4° \mathbb{M} 51'46	
opposition	1549 Nov 03 j 14:32	20° \mathcal{Z} 55'19	-1°-10'-1	opposition	1555 Apr 11 j 01:27	29° \mathcal{L} 59'37	1°29'15
direct	1549 Dec 31 j 17:07	15° \mathcal{Z} 58'08			1555 Apr 11 j 00:16	30° \mathbb{R} \mathcal{L}	

min. Earth dist.	1555 Apr 12 j 09:39	29° $\overline{\text{A}}$ 49'20	4.41957 AU		1561 Mar 16 j 13:12	0° B	
direct	1555 Jun 12 j 19:51	24° $\overline{\text{A}}$ 58'18		evening set	1561 Apr 04 j 22:14	4° B 31'04	
	1555 Aug 12 j 14:58	0° M					
evening set	1555 Oct 16 j 22:50	12° M 39'55		conjunction	1561 Apr 18 j 11:38	7° B 44'29	0°-56'-16
	1555 Oct 27 j 12:42	15° M		minimum elong	1561 Apr 18 j 11:41	7° B 44'31	0°56'18
max. Earth dist.	1555 Oct 27 j 14:21	15° M 00'55	6.37881 AU	max. Earth dist.	1561 Apr 20 j 14:28	8° B 14'45	5.99670 AU
				morning rise	1561 May 02 j 03:55	10° B 59'12	
conjunction	1555 Oct 29 j 15:52	15° M 28'20	0°51'53		1561 May 19 j 10:22	15° B	
minimum elong	1555 Oct 29 j 15:54	15° M 28'21	0°51'53		1561 Aug 14 j 17:30	0° II	
morning rise	1555 Nov 11 j 06:56	18° M 15'58		retrograde	1561 Sep 09 j 23:24	1° II 07'06	
	1556 Jan 09 j 06:19	0° X			1561 Oct 06 j 00:45	30° R B	
retrograde	1556 Mar 12 j 05:40	5° X 36'48		min. Earth dist.	1561 Nov 07 j 03:00	26° B 13'50	4.04692 AU
opposition	1556 May 12 j 04:02	0° X 44'50	0°56'38	opposition	1561 Nov 08 j 13:41	26° B 01'59	-1°-3'-34
min. Earth dist.	1556 May 13 j 15:43	0° X 33'28	4.32536 AU	direct	1562 Jan 05 j 19:09	21° B 04'23	
	1556 May 18 j 01:14	30° R M			1562 Mar 25 j 20:06	0° II	
direct	1556 Jul 13 j 10:03	25° M 45'35		evening set	1562 May 12 j 02:05	10° II 14'10	
	1556 Sep 06 j 03:47	0° X					
evening set	1556 Nov 16 j 02:08	13° X 51'21		conjunction	1562 May 25 j 20:14	13° II 24'33	0°-25'-29
max. Earth dist.	1556 Nov 26 j 19:25	16° X 17'24	6.26093 AU	minimum elong	1562 May 25 j 20:16	13° II 24'34	0°25'30
				max. Earth dist.	1562 May 28 j 01:32	13° II 55'20	6.10959 AU
conjunction	1556 Nov 28 j 18:02	16° X 43'58	0°22'05	morning rise	1562 Jun 08 j 15:20	16° II 35'11	
minimum elong	1556 Nov 28 j 18:03	16° X 43'59	0°22'05		1562 Aug 13 j 02:31	0° B	
morning rise	1556 Dec 11 j 09:05	19° X 36'28		retrograde	1562 Oct 14 j 05:26	5° B 39'33	
	1557 Jan 29 j 16:21	0° B		opposition	1562 Dec 12 j 19:28	0° B 35'54	0°-9'-15
retrograde	1557 Apr 15 j 07:15	7° B 51'12		min. Earth dist.	1562 Dec 11 j 14:36	0° B 45'41	4.17934 AU
opposition	1557 Jun 15 j 03:20	2° B 57'54	0°05'09		1562 Dec 17 j 05:40	30° R II	
min. Earth dist.	1557 Jun 16 j 09:19	2° B 48'18	4.19055 AU	direct	1563 Feb 10 j 02:27	25° II 35'28	
	1557 Jul 09 j 23:00	30° R X		asc. node	1563 Feb 15 j 06:22	25° II 38'07	
desc. node	1557 Jul 21 j 01:05	29° X 00'26			1563 Apr 05 j 13:26	0° B	
direct	1557 Aug 15 j 07:58	28° X 01'13		evening set	1563 Jun 16 j 19:34	14° B 08'17	
	1557 Sep 20 j 06:26	0° B					
evening set	1557 Dec 18 j 14:12	16° B 42'05		conjunction	1563 Jun 30 j 12:13	17° B 11'50	0°12'58
max. Earth dist.	1557 Dec 30 j 00:08	19° B 22'36	6.12083 AU	minimum elong	1563 Jun 30 j 12:12	17° B 11'49	0°12'59
				behind sun begin	1563 Jun 30 j 07:19	17° B 09'06	
conjunction	1557 Dec 31 j 07:48	19° B 41'13	0°-15'-53	behind sun end	1563 Jun 30 j 17:04	17° B 14'32	
minimum elong	1557 Dec 31 j 07:47	19° B 41'12	0°15'54	max. Earth dist.	1563 Jul 01 j 22:43	17° B 31'08	6.25079 AU
behind sun begin	1557 Dec 31 j 06:01	19° B 40'10		morning rise	1563 Jul 14 j 04:11	20° B 14'44	
behind sun end	1557 Dec 31 j 09:32	19° B 42'14			1563 Aug 30 j 03:14	0° B	
morning rise	1558 Jan 13 j 02:21	22° B 41'04		retrograde	1563 Nov 15 j 05:47	8° B 12'45	
	1558 Feb 14 j 13:20	0° \approx		min. Earth dist.	1564 Jan 13 j 11:03	3° B 17'16	4.31664 AU
retrograde	1558 May 21 j 13:43	12° \approx 03'06		opposition	1564 Jan 14 j 01:37	3° B 12'24	0°44'40
opposition	1558 Jul 21 j 03:41	7° \approx 06'52	0°-51'-28		1564 Feb 09 j 05:58	30° R B	
min. Earth dist.	1558 Jul 21 j 15:24	7° \approx 03'03	4.05611 AU	direct	1564 Mar 14 j 16:48	28° B 10'03	
direct	1558 Sep 18 j 20:44	2° \approx 12'28			1564 Apr 18 j 14:29	0° B	
	1558 Dec 25 j 00:57	15° \approx			1564 Jul 14 j 06:44	15° B	
evening set	1559 Jan 22 j 01:21	21° \approx 29'32		evening set	1564 Jul 19 j 14:53	16° B 09'15	
conjunction	1559 Feb 03 j 23:46	24° \approx 35'46	0°-49'-54	conjunction	1564 Aug 02 j 01:36	19° B 05'06	0°45'43
minimum elong	1559 Feb 03 j 23:44	24° \approx 35'45	0°49'55	minimum elong	1564 Aug 02 j 01:33	19° B 05'05	0°45'43
max. Earth dist.	1559 Feb 03 j 21:52	24° \approx 34'38	6.00430 AU	max. Earth dist.	1564 Aug 02 j 10:27	19° B 09'56	6.37395 AU
morning rise	1559 Feb 17 j 00:23	27° \approx 43'24		morning rise	1564 Aug 15 j 09:51	21° B 59'37	
	1559 Feb 26 j 14:48	0° X			1564 Sep 23 j 05:30	0° B	
retrograde	1559 Jun 28 j 12:21	18° X 03'07		retrograde	1564 Dec 14 j 20:01	9° B 08'35	
opposition	1559 Aug 27 j 15:19	13° X 03'02	-1°-31'-52	opposition	1565 Feb 12 j 23:42	4° B 12'00	1°22'46
min. Earth dist.	1559 Aug 27 j 05:43	13° X 06'14	3.96986 AU	min. Earth dist.	1565 Feb 13 j 02:54	4° B 10'57	4.41737 AU
direct	1559 Oct 25 j 03:07	8° X 09'30			1565 Mar 23 j 05:11	30° R B	
evening set	1560 Feb 27 j 11:05	27° X 49'00		direct	1565 Apr 15 j 19:46	29° B 09'02	
	1560 Mar 07 j 12:18	0° Y			1565 May 09 j 17:08	0° B	
				evening set	1565 Aug 20 j 16:21	16° B 46'21	
conjunction	1560 Mar 11 j 16:43	1° Y 00'42	-1°-6'00				
minimum elong	1560 Mar 11 j 16:43	1° Y 00'42	1°06'00	conjunction	1565 Sep 02 j 19:11	19° B 36'12	1°04'26
max. Earth dist.	1560 Mar 12 j 22:41	1° Y 18'49	5.95586 AU	minimum elong	1565 Sep 02 j 19:09	19° B 36'11	1°04'26
morning rise	1560 Mar 25 j 01:29	4° Y 14'06		max. Earth dist.	1565 Sep 01 j 23:30	19° B 25'33	6.44404 AU
retrograde	1560 Aug 04 j 12:02	24° Y 53'01		morning rise	1565 Sep 15 j 19:18	22° B 24'39	
min. Earth dist.	1560 Oct 02 j 01:38	19° Y 59'02	3.96635 AU		1565 Oct 22 j 19:36	0° B	
opposition	1560 Oct 03 j 06:05	19° Y 49'24	-1°-36'-39	retrograde	1566 Jan 13 j 23:13	9° B 10'40	
direct	1560 Nov 30 j 02:47	14° Y 54'37		opposition	1566 Mar 15 j 11:03	4° B 17'00	1°37'22

min. Earth dist.	1566 Mar 16 j 08:10	4°♂10'12	4.45371 AU	evening set	1572 Mar 03 j 13:43	2°♀58'48	
	1566 Apr 24 j 12:22	30°♂♂					
direct	1566 May 17 j 02:11	29°♂14'28		conjunction	1572 Mar 16 j 20:33	6°♀11'22	-1°-6'-10
	1566 Jun 08 j 19:03	0°♂		minimum elong	1572 Mar 16 j 20:33	6°♀11'22	1°06'11
evening set	1566 Sep 20 j 13:52	16°♂45'42		max. Earth dist.	1572 Mar 18 j 05:20	6°♀31'12	5.94976 AU
max. Earth dist.	1566 Oct 01 j 19:00	19°♂11'35	6.44306 AU	morning rise	1572 Mar 30 j 06:38	9°♀25'37	
					1572 Aug 01 j 23:05	0°♂	
conjunction	1566 Oct 03 j 10:19	19°♂32'58	1°05'25	retrograde	1572 Aug 09 j 16:43	0°♂06'00	
minimum elong	1566 Oct 03 j 10:20	19°♂32'59	1°05'25		1572 Aug 17 j 10:15	30°♂♀	
morning rise	1566 Oct 16 j 03:57	22°♂19'01		min. Earth dist.	1572 Oct 07 j 03:37	25°♀12'09	3.96621 AU
	1566 Nov 22 j 09:48	0°♂		opposition	1572 Oct 08 j 09:35	25°♀01'58	-1°-34'-5
retrograde	1567 Feb 13 j 13:27	9°♂10'35		direct	1572 Dec 05 j 05:49	20°♀06'50	
opposition	1567 Apr 15 j 09:32	4°♂18'30	1°26'04		1573 Feb 25 j 20:45	0°♂	
min. Earth dist.	1567 Apr 16 j 17:54	4°♂08'11	4.41616 AU	evening set	1573 Apr 10 j 04:10	9°♂43'23	
	1567 May 26 j 07:20	30°♂♂					
direct	1567 Jun 17 j 02:45	29°♂17'23		conjunction	1573 Apr 23 j 18:50	12°♂57'04	0°-52'-56
	1567 Jul 09 j 01:49	0°♂		minimum elong	1573 Apr 23 j 18:52	12°♂57'05	0°52'56
	1567 Oct 12 j 01:07	15°♂		max. Earth dist.	1573 Apr 26 j 01:12	13°♂29'21	6.00273 AU
evening set	1567 Oct 21 j 04:01	16°♂59'23			1573 May 02 j 10:07	15°♂	
max. Earth dist.	1567 Oct 31 j 18:45	19°♂20'15	6.37112 AU	morning rise	1573 May 07 j 11:53	16°♂11'51	
					1573 Jul 11 j 17:56	0°♂	
conjunction	1567 Nov 02 j 20:33	19°♂47'54	0°48'34	retrograde	1573 Sep 15 j 00:56	6°♂14'27	
minimum elong	1567 Nov 02 j 20:35	19°♂47'55	0°48'34	min. Earth dist.	1573 Nov 12 j 02:21	1°♂21'14	4.05826 AU
morning rise	1567 Nov 15 j 11:18	22°♂35'43		opposition	1573 Nov 13 j 13:13	1°♂09'21	0°-56'-37
	1567 Dec 20 j 11:10	0°♂			1573 Nov 22 j 02:28	30°♂♂	
retrograde	1568 Mar 16 j 17:45	10°♂00'42		direct	1574 Jan 10 j 20:56	26°♂11'20	
opposition	1568 May 16 j 15:38	5°♂08'38	0°50'29		1574 Mar 01 j 05:27	0°♂	
min. Earth dist.	1568 May 18 j 04:34	4°♂56'52	4.31347 AU	evening set	1574 May 17 j 06:41	15°♂17'48	
direct	1568 Jul 17 j 20:33	0°♂09'37					
evening set	1568 Nov 20 j 09:01	18°♂18'07		conjunction	1574 May 31 j 00:57	18°♂27'34	0°-20'-6
max. Earth dist.	1568 Dec 01 j 01:38	20°♂44'19	6.24573 AU	minimum elong	1574 May 31 j 00:58	18°♂27'35	0°20'08
				max. Earth dist.	1574 Jun 02 j 04:44	18°♂57'21	6.12512 AU
conjunction	1568 Dec 03 j 00:54	21°♂11'20	0°17'13	morning rise	1574 Jun 13 j 20:12	21°♂37'30	
minimum elong	1568 Dec 03 j 00:55	21°♂11'20	0°17'14		1574 Jul 22 j 07:57	0°♂	
morning rise	1568 Dec 15 j 16:17	24°♂04'34		retrograde	1574 Oct 18 j 21:26	10°♂33'02	
	1569 Jan 11 j 10:57	0°♂		min. Earth dist.	1574 Dec 16 j 08:34	5°♂39'10	4.19728 AU
retrograde	1569 Apr 19 j 23:54	12°♂26'54		opposition	1574 Dec 17 j 12:43	5°♂29'38	0°-1'-3
desc. node	1569 Jun 01 j 23:32	9°♂45'38		asc. node	1574 Dec 24 j 21:49	4°♂30'06	
opposition	1569 Jun 19 j 20:21	7°♂33'13	0°-2'-33	direct	1575 Feb 14 j 23:39	0°♂28'46	
min. Earth dist.	1569 Jun 21 j 00:24	7°♂24'13	4.17292 AU	evening set	1575 Jun 21 j 18:35	18°♂56'48	
direct	1569 Aug 19 j 19:45	2°♂36'46					
evening set	1569 Dec 23 j 02:04	21°♂22'26		conjunction	1575 Jul 05 j 10:44	21°♂59'17	0°18'16
				minimum elong	1575 Jul 05 j 10:42	21°♂59'16	0°18'16
conjunction	1570 Jan 04 j 20:13	24°♂22'33	0°-20'-59	max. Earth dist.	1575 Jul 06 j 19:17	22°♂17'26	6.26966 AU
minimum elong	1570 Jan 04 j 20:12	24°♂22'32	0°21'00	morning rise	1575 Jul 19 j 01:40	25°♂00'56	
max. Earth dist.	1570 Jan 03 j 15:53	24°♂05'49	6.10232 AU		1575 Aug 11 j 03:37	0°♂	
morning rise	1570 Jan 17 j 15:20	27°♂23'27		retrograde	1575 Nov 19 j 17:14	12°♂50'29	
	1570 Jan 28 j 20:38	0°♂		opposition	1576 Jan 18 j 13:22	7°♂50'37	0°51'20
	1570 Apr 21 j 08:08	15°♂		min. Earth dist.	1576 Jan 18 j 01:01	7°♂54'43	4.33447 AU
retrograde	1570 May 26 j 15:29	16°♂54'55		direct	1576 Mar 19 j 09:17	2°♂48'05	
	1570 Jul 01 j 01:15	15°♂			1576 Jun 27 j 03:15	15°♂	
opposition	1570 Jul 26 j 02:59	11°♂58'13	0°-58'-21	evening set	1576 Jul 24 j 07:04	20°♂42'51	
min. Earth dist.	1570 Jul 26 j 13:38	11°♂54'45	4.03821 AU				
direct	1570 Sep 23 j 16:23	7°♂03'58		conjunction	1576 Aug 06 j 16:34	23°♂37'37	0°49'23
	1570 Dec 06 j 05:45	15°♂		minimum elong	1576 Aug 06 j 16:32	23°♂37'36	0°49'23
evening set	1571 Jan 26 j 20:48	26°♂26'28		max. Earth dist.	1576 Aug 06 j 20:45	23°♂39'53	6.38889 AU
				morning rise	1576 Aug 19 j 23:46	26°♂31'04	
conjunction	1571 Feb 08 j 20:06	29°♂33'49	0°-53'-22		1576 Sep 05 j 07:51	0°♂	
minimum elong	1571 Feb 08 j 20:04	29°♂33'48	0°53'23	retrograde	1576 Dec 19 j 03:07	13°♂34'35	
max. Earth dist.	1571 Feb 08 j 21:00	29°♂34'21	5.98867 AU	opposition	1577 Feb 17 j 08:07	8°♂38'24	1°26'22
	1571 Feb 10 j 15:32	0°♂		min. Earth dist.	1577 Feb 17 j 14:02	8°♂36'28	4.42838 AU
morning rise	1571 Feb 21 j 21:55	2°♂42'39		direct	1577 Apr 20 j 07:42	3°♂35'22	
retrograde	1571 Jul 03 j 17:24	23°♂09'44		evening set	1577 Aug 25 j 02:51	21°♂10'15	
opposition	1571 Sep 01 j 18:33	18°♂09'10	-1°-34'-53	max. Earth dist.	1577 Sep 06 j 07:03	23°♂47'42	6.45008 AU
min. Earth dist.	1571 Sep 01 j 05:41	18°♂13'27	3.95847 AU				
direct	1571 Oct 30 j 01:34	13°♂15'33		conjunction	1577 Sep 07 j 04:47	23°♂59'27	1°05'40
	1572 Feb 20 j 01:34	0°♂		minimum elong	1577 Sep 07 j 04:46	23°♂59'26	1°05'39

morning rise	1577 Sep 20 j 03:38	26° \mathbb{M} 47'13	direct	1583 Nov 14 08:56	18° \mathbb{X} 38'47	
	1577 Oct 05 j 07:25	0° \mathbb{A}		1584 Feb 11 13:55	0° \mathbb{Y}	
retrograde	1578 Jan 18 j 05:05	13° \mathbb{A} 31'44	evening set	1584 Mar 18 21:58	8° \mathbb{Y} 23'07	
opposition	1578 Mar 19 j 18:55	8° \mathbb{A} 38'26	1°37'18			
min. Earth dist.	1578 Mar 20 j 17:31	8° \mathbb{A} 31'10	4.45444 AU	conjunction	1584 Apr 01 06:06	11° \mathbb{Y} 36'10 -1°-5'-51
direct	1578 May 21 j 10:36	3° \mathbb{A} 36'05		minimum elong	1584 Apr 01 06:07	11° \mathbb{Y} 36'10 1°05'52
evening set	1578 Sep 24 j 21:44	21° \mathbb{A} 07'24		max. Earth dist.	1584 Apr 02 20:46	11° \mathbb{Y} 59'31 5.95170 AU
max. Earth dist.	1578 Oct 05 j 22:28	23° \mathbb{A} 31'12	6.43823 AU	morning rise	1584 Apr 14 17:14	14° \mathbb{Y} 50'48
					1584 Jun 25 07:47	0° \mathbb{B}
conjunction	1578 Oct 07 j 17:18	23° \mathbb{A} 54'33	1°04'03	retrograde	1584 Aug 25 01:01	5° \mathbb{B} 28'31
minimum elong	1578 Oct 07 j 17:19	23° \mathbb{A} 54'33	1°04'03	min. Earth dist.	1584 Oct 22 08:44	0° \mathbb{B} 34'55 3.97569 AU
morning rise	1578 Oct 20 j 10:27	26° \mathbb{A} 40'35		opposition	1584 Oct 23 16:19	0° \mathbb{B} 24'11 -1°-30'-39
	1578 Nov 04 j 23:23	0° \mathbb{M}			1584 Oct 26 15:36	30° \mathbb{R} \mathbb{Y}
retrograde	1579 Feb 18 j 01:09	13° \mathbb{M} 34'53		direct	1584 Dec 20 13:00	25° \mathbb{Y} 28'44
opposition	1579 Apr 19 j 20:27	8° \mathbb{M} 42'57	1°22'23		1585 Feb 11 22:59	0° \mathbb{B}
min. Earth dist.	1579 Apr 21 j 07:03	8° \mathbb{M} 31'55	4.40595 AU	evening set	1585 Apr 25 12:42	15° \mathbb{B} 01'31
direct	1579 Jun 21 j 13:43	3° \mathbb{M} 42'03			1585 Apr 25 10:06	15° \mathbb{B}
	1579 Sep 25 j 04:37	15° \mathbb{M}				
evening set	1579 Oct 25 j 12:06	21° \mathbb{M} 26'48		conjunction	1585 May 09 03:58	18° \mathbb{B} 14'47 0°-49'-9
max. Earth dist.	1579 Nov 05 j 01:58	23° \mathbb{M} 47'40	6.35625 AU	minimum elong	1585 May 09 04:01	18° \mathbb{B} 14'49 0°49'09
				max. Earth dist.	1585 May 11 10:50	18° \mathbb{B} 47'13 6.01861 AU
conjunction	1579 Nov 07 j 04:30	24° \mathbb{M} 15'49	0°44'52	morning rise	1585 May 22 21:48	21° \mathbb{B} 29'07
minimum elong	1579 Nov 07 j 04:32	24° \mathbb{M} 15'50	0°44'51		1585 Jun 29 21:59	0° \mathbb{I}
morning rise	1579 Nov 19 j 19:06	27° \mathbb{M} 04'12		retrograde	1585 Sep 29 22:24	11° \mathbb{I} 22'14
	1579 Dec 03 j 03:51	0° \mathbb{X}		min. Earth dist.	1585 Nov 27 00:45	6° \mathbb{I} 29'14 4.07870 AU
retrograde	1580 Mar 21 j 09:24	14° \mathbb{X} 36'02		opposition	1585 Nov 28 12:10	6° \mathbb{I} 17'09 0°-49'-17
opposition	1580 May 21 j 08:11	9° \mathbb{X} 43'51	0°43'46	direct	1586 Jan 25 22:57	1° \mathbb{I} 18'38
min. Earth dist.	1580 May 22 j 19:57	9° \mathbb{X} 32'26	4.29481 AU	evening set	1586 Jun 01 09:49	20° \mathbb{I} 18'40
direct	1580 Jul 22 j 08:17	4° \mathbb{X} 45'12				
evening set	1580 Nov 24 j 21:13	22° \mathbb{X} 58'45		conjunction	1586 Jun 15 04:08	23° \mathbb{I} 27'23 0°-14'-41
max. Earth dist.	1580 Dec 05 j 15:57	25° \mathbb{X} 26'52	6.22482 AU	minimum elong	1586 Jun 15 04:08	23° \mathbb{I} 27'24 0°14'42
				behind sun begin	1586 Jun 15 01:02	23° \mathbb{I} 25'38
conjunction	1580 Dec 07 j 13:12	25° \mathbb{X} 52'53	0°11'59	behind sun end	1586 Jun 15 07:15	23° \mathbb{I} 29'10
minimum elong	1580 Dec 07 j 13:13	25° \mathbb{X} 52'53	0°11'59	max. Earth dist.	1586 Jun 17 06:21	23° \mathbb{I} 56'08 6.14835 AU
behind sun begin	1580 Dec 07 j 07:39	25° \mathbb{X} 49'42		morning rise	1586 Jun 28 22:57	26° \mathbb{I} 36'05
behind sun end	1580 Dec 07 j 18:47	25° \mathbb{X} 56'04			1586 Jul 14 03:24	0° \mathbb{B}
morning rise	1580 Dec 20 j 04:55	28° \mathbb{X} 47'08		retrograde	1586 Nov 02 12:14	15° \mathbb{B} 20'29
	1580 Dec 25 j 12:58	0° \mathbb{B}		asc. node	1586 Nov 13 12:33	15° \mathbb{B} 08'18
desc. node	1581 Apr 11 j 03:22	17° \mathbb{B} 01'07		min. Earth dist.	1586 Dec 31 01:58	10° \mathbb{B} 26'08 4.22078 AU
retrograde	1581 Apr 25 j 02:17	17° \mathbb{B} 19'22		opposition	1587 Jan 01 03:33	10° \mathbb{B} 17'29 0°06'55
opposition	1581 Jun 24 j 20:29	12° \mathbb{B} 25'24	0°-10'-46	direct	1587 Mar 01 19:57	5° \mathbb{B} 16'18
min. Earth dist.	1581 Jun 25 j 23:42	12° \mathbb{B} 16'39	4.15112 AU	evening set	1587 Jul 06 14:00	23° \mathbb{B} 37'52
direct	1581 Aug 24 j 16:10	7° \mathbb{B} 29'19				
evening set	1581 Dec 27 j 21:12	26° \mathbb{B} 21'12		conjunction	1587 Jul 20 05:19	26° \mathbb{B} 39'05 0°23'17
				minimum elong	1587 Jul 20 05:17	26° \mathbb{B} 39'04 0°23'16
conjunction	1582 Jan 09 j 15:57	29° \mathbb{B} 22'28	0°-26'-16	max. Earth dist.	1587 Jul 21 10:03	26° \mathbb{B} 55'01 6.29140 AU
minimum elong	1582 Jan 09 j 15:55	29° \mathbb{B} 22'27	0°26'17	morning rise	1587 Aug 02 19:18	29° \mathbb{B} 39'22
max. Earth dist.	1582 Jan 08 j 14:25	29° \mathbb{B} 07'20	6.08167 AU		1587 Aug 04 08:50	0° \mathbb{Q}
	1582 Jan 12 j 07:18	0° \mathbb{A}			1587 Oct 26 00:56	15° \mathbb{Q}
morning rise	1582 Jan 22 j 11:56	2° \mathbb{A} 24'38		retrograde	1587 Dec 03 22:56	17° \mathbb{Q} 20'11
	1582 Mar 22 j 02:48	15° \mathbb{A}			1588 Jan 11 19:16	15° \mathbb{R} \mathbb{Q}
retrograde	1582 May 31 j 23:08	22° \mathbb{A} 06'08		opposition	1588 Feb 01 21:46	12° \mathbb{Q} 20'47 0°57'28
opposition	1582 Jul 31 j 09:44	17° \mathbb{A} 09'00	-1°-5'-15	min. Earth dist.	1588 Feb 01 11:36	12° \mathbb{Q} 24'10 4.35290 AU
min. Earth dist.	1582 Jul 31 j 16:25	17° \mathbb{A} 06'49	4.02094 AU	direct	1588 Apr 02 21:41	7° \mathbb{Q} 18'03
	1582 Aug 17 j 09:45	15° \mathbb{R} \mathbb{A}			1588 Jun 18 06:52	15° \mathbb{Q}
direct	1582 Sep 28 j 17:04	12° \mathbb{A} 15'01		evening set	1588 Aug 07 19:31	25° \mathbb{Q} 08'31
	1582 Nov 19 04:46	15° \mathbb{A}				
	1583 Feb 03 19:57	0° \mathbb{X}		conjunction	1588 Aug 21 03:57	28° \mathbb{Q} 02'16 0°52'38
evening set	1583 Feb 10 23:48	1° \mathbb{X} 42'35		minimum elong	1588 Aug 21 03:55	28° \mathbb{Q} 02'15 0°52'38
				max. Earth dist.	1588 Aug 21 04:06	28° \mathbb{Q} 02'21 6.40262 AU
conjunction	1583 Feb 24 00:03	4° \mathbb{X} 50'56	0°-56'-39		1588 Aug 30 04:44	0° \mathbb{M}
minimum elong	1583 Feb 24 00:01	4° \mathbb{X} 50'55	0°56'41	morning rise	1588 Sep 03 09:50	0° \mathbb{M} 54'39
max. Earth dist.	1583 Feb 24 05:40	4° \mathbb{X} 54'20	5.97644 AU	retrograde	1589 Jan 02 07:39	17° \mathbb{M} 53'32
morning rise	1583 Mar 09 02:59	8° \mathbb{X} 00'50		opposition	1589 Mar 03 13:39	12° \mathbb{M} 57'50 1°29'23
retrograde	1583 Jul 19 04:49	28° \mathbb{X} 33'36		min. Earth dist.	1589 Mar 03 22:42	12° \mathbb{M} 54'53 4.43662 AU
opposition	1583 Sep 17 04:23	23° \mathbb{X} 32'27	-1°-37'-17	direct	1589 May 04 16:45	7° \mathbb{M} 54'49
min. Earth dist.	1583 Sep 16 12:33	23° \mathbb{X} 37'45	3.95296 AU	evening set	1589 Sep 08 10:43	25° \mathbb{M} 28'13

max. Earth dist.	1589 Sep 20 08:37	28° \mathbb{M} 02'23	6.45199 AU	morning rise	1595 Mar 14 09:47	13° \mathbb{X} 21'27	
					1595 Jun 03 12:52	0° \mathbb{Y}	
conjunction	1589 Sep 21 11:34	28° \mathbb{M} 16'57	1°06'31	retrograde	1595 Jul 24 16:03	3° \mathbb{Y} 57'18	
minimum elong	1589 Sep 21 11:33	28° \mathbb{M} 16'57	1°06'31		1595 Sep 14 12:32	30° \mathbb{R} \mathbb{X}	
	1589 Sep 29 10:15	0° \mathbb{A}		opposition	1595 Sep 22 14:04	28° \mathbb{X} 55'38	-1°-38'-48
morning rise	1589 Oct 04 09:38	1° \mathbb{A} 04'18		min. Earth dist.	1595 Sep 21 19:24	29° \mathbb{X} 01'53	3.95272 AU
retrograde	1590 Feb 01 11:34	17° \mathbb{A} 48'53		direct	1595 Nov 19 16:01	24° \mathbb{X} 01'53	
opposition	1590 Apr 03 01:34	12° \mathbb{A} 55'49	1°36'45		1596 Jan 20 15:02	0° \mathbb{Y}	
min. Earth dist.	1590 Apr 04 02:53	12° \mathbb{A} 47'41	4.45014 AU	evening set	1596 Mar 24 06:19	13° \mathbb{Y} 45'19	
direct	1590 Jun 04 18:27	7° \mathbb{A} 53'33					
evening set	1590 Oct 09 04:04	25° \mathbb{A} 26'28		conjunction	1596 Apr 06 15:22	16° \mathbb{Y} 58'30	-1°-4'-58
max. Earth dist.	1590 Oct 20 03:26	27° \mathbb{A} 49'53	6.42801 AU	minimum elong	1596 Apr 06 15:23	16° \mathbb{Y} 58'31	1°04'59
				max. Earth dist.	1596 Apr 08 08:21	17° \mathbb{Y} 23'11	5.95852 AU
conjunction	1590 Oct 21 23:12	28° \mathbb{A} 13'48	1°02'21	morning rise	1596 Apr 20 03:43	20° \mathbb{Y} 13'19	
minimum elong	1590 Oct 21 23:13	28° \mathbb{A} 13'49	1°02'21		1596 Jun 02 08:01	0° \mathbb{B}	
	1590 Oct 30 01:29	0° \mathbb{M}		retrograde	1596 Aug 30 05:07	10° \mathbb{B} 46'11	
morning rise	1590 Nov 03 15:40	1° \mathbb{M} 00'01		min. Earth dist.	1596 Oct 27 11:16	5° \mathbb{B} 53'02	3.98877 AU
	1591 Jan 18 13:36	15° \mathbb{M}		opposition	1596 Oct 28 20:55	5° \mathbb{B} 41'35	-1°-26'-30
retrograde	1591 Mar 04 10:56	17° \mathbb{M} 58'55		direct	1596 Dec 25 18:22	0° \mathbb{B} 45'45	
	1591 Apr 19 02:52	15° \mathbb{R} \mathbb{M}			1597 Apr 08 00:42	15° \mathbb{B}	
opposition	1591 May 04 07:29	13° \mathbb{M} 07'02	1°18'17	evening set	1597 Apr 30 19:12	20° \mathbb{B} 13'52	
min. Earth dist.	1591 May 05 18:33	12° \mathbb{M} 55'52	4.39046 AU				
direct	1591 Jul 05 22:17	8° \mathbb{M} 06'28		conjunction	1597 May 14 11:16	23° \mathbb{B} 26'38	0°-45'-1
	1591 Sep 15 22:38	15° \mathbb{M}		minimum elong	1597 May 14 11:18	23° \mathbb{B} 26'40	0°45'02
evening set	1591 Nov 08 20:58	25° \mathbb{M} 55'34		max. Earth dist.	1597 May 16 18:50	23° \mathbb{B} 59'20	6.03671 AU
max. Earth dist.	1591 Nov 19 09:45	28° \mathbb{M} 16'32	6.33668 AU	morning rise	1597 May 28 05:26	26° \mathbb{B} 40'17	
					1597 Jun 11 16:15	0° \mathbb{I}	
conjunction	1591 Nov 21 13:02	28° \mathbb{M} 45'15	0°40'54	retrograde	1597 Oct 04 19:48	16° \mathbb{I} 23'40	
minimum elong	1591 Nov 21 13:04	28° \mathbb{M} 45'16	0°40'54	min. Earth dist.	1597 Dec 01 23:13	11° \mathbb{I} 30'16	4.09960 AU
	1591 Nov 27 02:32	0° \mathbb{J}		opposition	1597 Dec 03 08:58	11° \mathbb{I} 18'46	0°-41'-42
morning rise	1591 Dec 04 03:45	1° \mathbb{J} 34'28		direct	1598 Jan 31 00:07	6° \mathbb{I} 19'53	
retrograde	1592 Apr 05 05:27	19° \mathbb{J} 14'44		evening set	1598 Jun 06 10:52	25° \mathbb{I} 13'48	
opposition	1592 Jun 05 02:35	14° \mathbb{J} 22'25	0°36'44				
min. Earth dist.	1592 Jun 06 14:31	14° \mathbb{J} 10'57	4.27229 AU	conjunction	1598 Jun 20 05:04	28° \mathbb{I} 21'31	0°-9'-15
direct	1592 Aug 05 23:55	9° \mathbb{J} 24'07		minimum elong	1598 Jun 20 05:04	28° \mathbb{I} 21'31	0°09'15
evening set	1592 Dec 09 11:23	27° \mathbb{J} 43'53		behind sun begin	1598 Jun 19 22:05	28° \mathbb{I} 17'33	
	1592 Dec 19 08:01	0° \mathbb{Z}		behind sun end	1598 Jun 20 12:04	28° \mathbb{I} 25'29	
max. Earth dist.	1592 Dec 20 08:48	0° \mathbb{Z} 14'18	6.20142 AU	max. Earth dist.	1598 Jun 22 05:22	28° \mathbb{I} 49'00	6.17031 AU
					1598 Jun 27 10:15	0° \mathbb{S}	
conjunction	1592 Dec 22 03:47	0° \mathbb{Z} 39'08	0°06'37	morning rise	1598 Jul 03 23:30	1° \mathbb{S} 29'02	
minimum elong	1592 Dec 22 03:46	0° \mathbb{Z} 39'07	0°06'37	asc. node	1598 Sep 23 04:49	16° \mathbb{S} 58'36	
behind sun begin	1592 Dec 21 20:17	0° \mathbb{Z} 34'49		retrograde	1598 Nov 06 23:07	20° \mathbb{S} 03'20	
behind sun end	1592 Dec 22 11:15	0° \mathbb{Z} 43'26		opposition	1599 Jan 05 16:29	15° \mathbb{S} 00'49	0°14'45
morning rise	1593 Jan 03 19:55	3° \mathbb{Z} 34'33		min. Earth dist.	1599 Jan 04 16:07	15° \mathbb{S} 09'02	4.24190 AU
desc. node	1593 Feb 28 02:27	15° \mathbb{Z} 12'59		direct	1599 Mar 06 12:27	9° \mathbb{S} 59'24	
retrograde	1593 May 10 04:51	22° \mathbb{Z} 17'23		evening set	1599 Jul 11 08:17	28° \mathbb{S} 15'49	
opposition	1593 Jul 09 23:06	17° \mathbb{Z} 23'05	0°-19'-2		1599 Jul 19 05:27	0° \mathbb{Q}	
min. Earth dist.	1593 Jul 10 22:59	17° \mathbb{Z} 15'23	4.12882 AU				
direct	1593 Sep 08 12:38	12° \mathbb{Z} 27'26		conjunction	1599 Jul 24 22:43	1° \mathbb{Q} 15'53	0°28'07
	1594 Jan 05 17:23	0° \mathbb{W}		minimum elong	1599 Jul 24 22:41	1° \mathbb{Q} 15'52	0°28'07
evening set	1594 Jan 11 18:55	1° \mathbb{W} 25'28		max. Earth dist.	1599 Jul 25 22:31	1° \mathbb{Q} 29'02	6.31015 AU
				morning rise	1599 Aug 07 11:43	4° \mathbb{Q} 14'59	
conjunction	1594 Jan 24 14:12	4° \mathbb{W} 27'49	0°-31'-26		1599 Sep 29 17:26	15° \mathbb{Q}	
minimum elong	1594 Jan 24 14:10	4° \mathbb{W} 27'48	0°31'26	retrograde	1599 Dec 08 07:00	21° \mathbb{Q} 48'30	
max. Earth dist.	1594 Jan 23 17:04	4° \mathbb{W} 15'15	6.06249 AU	opposition	1600 Feb 06 05:53	16° \mathbb{Q} 49'42	1°03'15
morning rise	1594 Feb 06 11:04	7° \mathbb{W} 31'13		min. Earth dist.	1600 Feb 05 23:20	16° \mathbb{Q} 51'52	4.36797 AU
	1594 Mar 11 06:19	15° \mathbb{W}			1600 Feb 20 09:10	15° \mathbb{R} \mathbb{Q}	
retrograde	1594 Jun 16 10:05	27° \mathbb{W} 22'00		direct	1600 Apr 07 10:55	11° \mathbb{Q} 46'53	
opposition	1594 Aug 15 18:41	22° \mathbb{W} 24'17	-1°-11'-44		1600 May 24 19:17	15° \mathbb{Q}	
min. Earth dist.	1594 Aug 15 22:00	22° \mathbb{W} 23'11	4.00681 AU	evening set	1600 Aug 12 07:36	29° \mathbb{Q} 34'14	
direct	1594 Oct 13 22:17	17° \mathbb{W} 30'27			1600 Aug 14 07:24	0° \mathbb{P}	
	1595 Jan 16 23:48	0° \mathbb{X}					
evening set	1595 Feb 16 04:29	7° \mathbb{X} 01'35		conjunction	1600 Aug 25 15:03	2° \mathbb{P} 27'10	0°55'36
				minimum elong	1600 Aug 25 15:01	2° \mathbb{P} 27'09	0°55'35
conjunction	1595 Mar 01 05:50	10° \mathbb{X} 10'44	0°-59'-30	max. Earth dist.	1600 Aug 25 11:00	2° \mathbb{P} 24'58	6.41278 AU
minimum elong	1595 Mar 01 05:48	10° \mathbb{X} 10'43	0°59'31	morning rise	1600 Sep 07 19:48	5° \mathbb{P} 18'42	
max. Earth dist.	1595 Mar 01 17:56	10° \mathbb{X} 18'03	5.96870 AU	retrograde	1601 Jan 06 12:19	22° \mathbb{P} 14'22	

opposition	1600 Feb 06 05:53	16°♏49'42	1°03'15	direct	1605 Sep 13 11:45	17°♌26'59	
min. Earth dist.	1600 Feb 05 23:20	16°♏51'52	4.36797 AU		1605 Dec 19 09:07	0°♊	
	1600 Feb 20 09:10	15°♏		evening set	1606 Jan 16 16:12	6°♊29'24	
direct	1600 Apr 07 10:55	11°♏46'53					
	1600 May 24 19:17	15°♏		conjunction	1606 Jan 29 12:15	9°♊32'39	0°-36'-19
evening set	1600 Aug 12 07:36	29°♏34'14		minimum elong	1606 Jan 29 12:13	9°♊32'37	0°36'20
	1600 Aug 14 07:24	0°♏		max. Earth dist.	1606 Jan 28 20:39	9°♊23'21	6.04837 AU
				morning rise	1606 Feb 11 09:47	12°♊36'59	
conjunction	1600 Aug 25 15:03	2°♏27'10	0°55'36		1606 Feb 21 12:59	15°♊	
minimum elong	1600 Aug 25 15:01	2°♏27'09	0°55'35		1606 May 11 16:30	0°♋	
max. Earth dist.	1600 Aug 25 11:00	2°♏24'58	6.41278 AU	retrograde	1606 Jun 21 18:41	2°♋34'42	
morning rise	1600 Sep 07 19:48	5°♏18'42			1606 Aug 02 01:53	30°♋	
retrograde	1601 Jan 06 12:19	22°♏14'22		opposition	1606 Aug 21 01:46	27°♋36'25	-1°-17'-30
opposition	1601 Mar 07 20:05	17°♏19'06	1°31'57	min. Earth dist.	1606 Aug 21 01:54	27°♋36'22	3.99802 AU
min. Earth dist.	1601 Mar 08 07:12	17°♏15'28	4.44158 AU	direct	1606 Oct 19 00:58	22°♋42'44	
direct	1601 May 09 01:08	12°♏16'08			1606 Dec 27 18:03	0°♋	
evening set	1601 Sep 12 19:08	29°♏49'01		evening set	1607 Feb 21 07:18	12°♋15'28	
	1601 Sep 13 15:35	0°♏					
				conjunction	1607 Mar 06 09:24	15°♋25'08	-1°-1'-47
conjunction	1601 Sep 25 19:06	2°♏37'25	1°07'01	minimum elong	1607 Mar 06 09:22	15°♋25'07	1°01'48
minimum elong	1601 Sep 25 19:06	2°♏37'25	1°07'01	max. Earth dist.	1607 Mar 07 00:49	15°♋34'27	5.96572 AU
max. Earth dist.	1601 Sep 24 13:48	2°♏21'33	6.45136 AU	morning rise	1607 Mar 19 14:33	18°♋36'27	
morning rise	1601 Oct 08 16:09	5°♏24'26			1607 May 09 11:52	0°♌	
retrograde	1602 Feb 05 18:46	22°♏09'58		retrograde	1607 Jul 29 21:36	9°♌13'18	
opposition	1602 Apr 07 09:42	17°♏17'12	1°35'40	opposition	1607 Sep 27 20:09	4°♌11'03	-1°-39'-25
min. Earth dist.	1602 Apr 08 13:06	17°♏08'26	4.44409 AU	min. Earth dist.	1607 Sep 26 22:11	4°♌18'26	3.95613 AU
direct	1602 Jun 09 03:33	12°♏15'11			1607 Nov 04 10:12	30°♌	
evening set	1602 Oct 13 11:52	29°♏50'06		direct	1607 Nov 24 20:24	29°♌17'04	
	1602 Oct 14 06:04	0°♌			1607 Dec 15 07:42	0°♌	
max. Earth dist.	1602 Oct 24 07:32	2°♌11'58	6.41688 AU	evening set	1608 Mar 29 10:57	18°♌58'22	
conjunction	1602 Oct 26 06:20	2°♌37'38	1°00'17	conjunction	1608 Apr 11 21:08	22°♌11'36	-1°-3'-34
minimum elong	1602 Oct 26 06:22	2°♌37'39	1°00'16	minimum elong	1608 Apr 11 21:09	22°♌11'37	1°03'35
morning rise	1602 Nov 07 22:32	5°♌24'10		max. Earth dist.	1608 Apr 13 17:45	22°♌38'25	5.96785 AU
	1602 Dec 25 03:02	15°♌		morning rise	1608 Apr 25 10:17	25°♌26'21	
retrograde	1603 Mar 09 00:07	22°♌28'00			1608 May 14 21:56	0°♍	
opposition	1603 May 08 20:30	17°♌36'09	1°13'38		1608 Aug 11 20:06	15°♍	
min. Earth dist.	1603 May 10 08:22	17°♌24'43	4.37503 AU	retrograde	1608 Sep 04 06:35	15°♍53'31	
	1603 May 30 08:39	15°♌			1608 Sep 27 11:14	15°♌	
direct	1603 Jul 10 09:52	12°♌35'52		opposition	1608 Nov 02 21:22	10°♌48'40	-1°-21'-47
	1603 Aug 20 05:33	15°♌		min. Earth dist.	1608 Nov 01 12:07	11°♌00'00	4.00284 AU
	1603 Nov 11 02:32	0°♎		direct	1608 Dec 30 21:18	5°♌52'25	
evening set	1603 Nov 13 06:53	0°♎29'06			1609 Mar 20 06:19	15°♌	
max. Earth dist.	1603 Nov 23 21:22	2°♎51'36	6.31836 AU	evening set	1609 May 05 21:49	25°♌15'44	
conjunction	1603 Nov 25 23:01	3°♎19'31	0°36'38	conjunction	1609 May 19 14:28	28°♌27'58	0°-40'-42
minimum elong	1603 Nov 25 23:02	3°♎19'32	0°36'38	minimum elong	1609 May 19 14:31	28°♌27'59	0°40'44
morning rise	1603 Dec 08 13:37	6°♎09'28		max. Earth dist.	1609 May 21 22:10	29°♌00'35	6.05415 AU
retrograde	1604 Apr 10 00:38	23°♎57'50			1609 May 26 03:45	0°♐	
opposition	1604 Jun 09 22:33	19°♎05'21	0°29'21	morning rise	1609 Jun 02 09:03	1°♐40'57	
min. Earth dist.	1604 Jun 11 08:44	18°♎54'27	4.25243 AU	retrograde	1609 Oct 09 11:28	21°♐14'57	
direct	1604 Aug 10 15:42	14°♎07'31		min. Earth dist.	1609 Dec 06 16:09	16°♐21'39	4.11861 AU
	1604 Dec 02 22:45	0°♑		opposition	1609 Dec 08 01:35	16°♐10'17	0°-34'-7
evening set	1604 Dec 14 02:27	2°♑32'22		direct	1610 Feb 04 19:00	11°♐11'01	
max. Earth dist.	1604 Dec 25 02:07	5°♑04'49	6.18181 AU	evening set	1610 Jun 11 08:26	29°♐59'47	
					1610 Jun 11 08:49	0°♑	
conjunction	1604 Dec 26 18:53	5°♑28'28	0°01'09				
minimum elong	1604 Dec 26 18:54	5°♑28'28	0°01'08	conjunction	1610 Jun 25 02:23	3°♑06'34	0°-3'-56
behind sun begin	1604 Dec 26 10:54	5°♑23'51		minimum elong	1610 Jun 25 02:22	3°♑06'33	0°03'57
behind sun end	1604 Dec 27 02:54	5°♑33'05		behind sun begin	1610 Jun 24 18:07	3°♑01'54	
desc. node	1605 Jan 07 05:00	8°♑07'16		behind sun end	1610 Jun 25 10:37	3°♑11'13	
morning rise	1605 Jan 08 11:37	8°♑24'56		max. Earth dist.	1610 Jun 26 22:14	3°♑31'25	6.18935 AU
retrograde	1605 May 15 09:04	27°♑17'06		morning rise	1610 Jul 08 20:27	6°♑13'03	
opposition	1605 Jul 15 02:07	22°♑22'20	0°-27'-11	asc. node	1610 Aug 04 03:35	11°♑58'07	
min. Earth dist.	1605 Jul 15 23:15	22°♑15'30	4.11108 AU	retrograde	1610 Nov 11 09:46	24°♑38'41	

min. Earth dist.	1611 Jan 09 05:51	19° $\overline{5}$ 43'47	4.25929 AU	behind sun begin	1616 Dec 31 01:25	10° $\overline{3}$ 10'11	
opposition	1611 Jan 10 03:00	19° $\overline{5}$ 36'39	0°22'13	behind sun end	1616 Dec 31 17:08	10° $\overline{3}$ 19'17	
direct	1611 Mar 11 04:19	14° $\overline{5}$ 34'57		morning rise	1617 Jan 13 02:20	13° $\overline{3}$ 12'09	
	1611 Jul 03 02:57	0° Ω			1617 Apr 12 05:59	0° \approx	
evening set	1611 Jul 15 23:51	2° Ω 47'28		retrograde	1617 May 20 11:55	2° \approx 13'11	
					1617 Jun 28 00:19	30° \overline{R} $\overline{3}$	
conjunction	1611 Jul 29 13:39	5° Ω 46'37	0°32'39	opposition	1617 Jul 20 03:33	27° $\overline{3}$ 18'04	0°-35'-7
minimum elong	1611 Jul 29 13:37	5° Ω 46'36	0°32'40	min. Earth dist.	1617 Jul 20 22:34	27° $\overline{3}$ 11'54	4.09411 AU
max. Earth dist.	1611 Jul 30 10:36	5° Ω 58'10	6.32467 AU	direct	1617 Sep 18 08:15	22° $\overline{3}$ 23'03	
morning rise	1611 Aug 12 01:33	8° Ω 44'41			1617 Nov 29 22:07	0° \approx	
	1611 Sep 10 14:59	15° Ω		evening set	1618 Jan 21 12:26	11° \approx 29'58	
retrograde	1611 Dec 12 11:58	26° Ω 12'30					
opposition	1612 Feb 10 12:38	21° Ω 14'14	1°08'32	conjunction	1618 Feb 03 08:59	14° \approx 34'07	0°-40'-55
min. Earth dist.	1612 Feb 10 07:44	21° Ω 15'51	4.37892 AU	minimum elong	1618 Feb 03 08:57	14° \approx 34'05	0°40'56
direct	1612 Apr 11 20:17	16° Ω 11'23		max. Earth dist.	1618 Feb 02 19:53	14° \approx 26'16	6.03395 AU
	1612 Jul 29 02:57	0° $\overline{\eta}$			1618 Feb 05 04:15	15° \approx	
evening set	1612 Aug 16 18:40	3° $\overline{\eta}$ 56'51		morning rise	1618 Feb 16 07:35	17° \approx 39'30	
					1618 Apr 13 21:08	0° $\overline{\text{H}}$	
conjunction	1612 Aug 30 00:59	6° $\overline{\eta}$ 49'05	0°58'11	retrograde	1618 Jun 27 00:08	7° $\overline{\text{H}}$ 44'36	
minimum elong	1612 Aug 30 00:57	6° $\overline{\eta}$ 49'04	0°58'10	opposition	1618 Aug 26 07:16	2° $\overline{\text{H}}$ 45'45	-1°-22'-40
max. Earth dist.	1612 Aug 29 16:30	6° $\overline{\eta}$ 44'29	6.41942 AU	min. Earth dist.	1618 Aug 26 03:42	2° $\overline{\text{H}}$ 46'55	3.98766 AU
morning rise	1612 Sep 12 04:43	9° $\overline{\eta}$ 39'56			1618 Sep 17 13:33	30° \overline{R} \approx	
retrograde	1613 Jan 10 18:39	26° $\overline{\eta}$ 33'27		direct	1618 Oct 24 02:01	27° \approx 52'08	
opposition	1613 Mar 12 02:21	21° $\overline{\eta}$ 38'39	1°33'58		1618 Nov 29 04:08	0° $\overline{\text{H}}$	
min. Earth dist.	1613 Mar 12 16:39	21° $\overline{\eta}$ 34'01	4.44377 AU	evening set	1619 Feb 26 09:30	17° $\overline{\text{H}}$ 27'37	
direct	1613 May 13 10:50	16° $\overline{\eta}$ 35'48					
	1613 Aug 28 11:07	0° $\overline{\Delta}$		conjunction	1619 Mar 11 12:48	20° $\overline{\text{H}}$ 38'01	-1°-3'-36
evening set	1613 Sep 17 03:14	4° $\overline{\Delta}$ 08'47		minimum elong	1619 Mar 11 12:46	20° $\overline{\text{H}}$ 38'00	1°03'37
max. Earth dist.	1613 Sep 28 18:13	6° $\overline{\Delta}$ 39'30	6.44887 AU	max. Earth dist.	1619 Mar 12 09:29	20° $\overline{\text{H}}$ 50'32	5.96044 AU
				morning rise	1619 Mar 24 18:54	23° $\overline{\text{H}}$ 50'03	
conjunction	1613 Sep 30 02:24	6° $\overline{\Delta}$ 56'57	1°07'07		1619 Apr 20 03:16	0° $\overline{\gamma}$	
minimum elong	1613 Sep 30 02:24	6° $\overline{\Delta}$ 56'57	1°07'07	retrograde	1619 Aug 04 05:44	14° $\overline{\gamma}$ 28'53	
morning rise	1613 Oct 12 22:40	9° $\overline{\Delta}$ 43'45		min. Earth dist.	1619 Oct 02 02:27	9° $\overline{\gamma}$ 33'59	3.95658 AU
retrograde	1614 Feb 10 01:51	26° $\overline{\Delta}$ 30'44		opposition	1619 Oct 03 01:32	9° $\overline{\gamma}$ 26'12	-1°-39'-18
opposition	1614 Apr 11 18:16	21° $\overline{\Delta}$ 38'10	1°34'01	direct	1619 Nov 30 01:26	4° $\overline{\gamma}$ 31'59	
min. Earth dist.	1614 Apr 12 22:28	21° $\overline{\Delta}$ 29'07	4.43731 AU	evening set	1620 Apr 03 16:30	24° $\overline{\gamma}$ 12'46	
direct	1614 Jun 13 11:41	16° $\overline{\Delta}$ 36'21					
	1614 Sep 28 01:05	0° $\overline{\text{M}}$		conjunction	1620 Apr 17 03:45	27° $\overline{\gamma}$ 26'14	-1°-1'-41
evening set	1614 Oct 17 19:20	4° $\overline{\text{M}}$ 13'10		minimum elong	1620 Apr 17 03:47	27° $\overline{\gamma}$ 26'15	1°01'42
max. Earth dist.	1614 Oct 28 15:00	6° $\overline{\text{M}}$ 35'25	6.40632 AU	max. Earth dist.	1620 Apr 19 02:54	27° $\overline{\gamma}$ 54'29	5.97385 AU
					1620 Apr 27 20:50	0° $\overline{8}$	
conjunction	1614 Oct 30 13:21	7° $\overline{\text{M}}$ 00'55	0°57'51	morning rise	1620 Apr 30 18:01	0° $\overline{8}$ 41'10	
minimum elong	1614 Oct 30 13:23	7° $\overline{\text{M}}$ 00'56	0°57'50		1620 Jul 07 02:51	15° $\overline{8}$	
morning rise	1614 Nov 12 05:01	9° $\overline{\text{M}}$ 47'42		retrograde	1620 Sep 09 07:39	21° $\overline{8}$ 03'40	
	1614 Dec 06 14:32	15° $\overline{\text{M}}$		min. Earth dist.	1620 Nov 06 11:36	16° $\overline{8}$ 10'30	4.01376 AU
retrograde	1615 Mar 13 12:30	26° $\overline{\text{M}}$ 56'13		opposition	1620 Nov 07 22:10	15° $\overline{8}$ 58'43	-1°-16'-27
opposition	1615 May 13 09:40	22° $\overline{\text{M}}$ 04'24	1°08'31		1620 Nov 15 03:53	15° $\overline{\text{R}}$ $\overline{8}$	
min. Earth dist.	1615 May 14 21:54	21° $\overline{\text{M}}$ 52'52	4.36112 AU	direct	1621 Jan 04 22:00	11° $\overline{8}$ 02'04	
direct	1615 Jul 14 21:46	17° $\overline{\text{M}}$ 04'28			1621 Feb 24 00:09	15° $\overline{8}$	
	1615 Oct 25 16:09	0° $\overline{\text{J}}$		evening set	1621 May 09 12:11	0° $\overline{\text{II}}$	
evening set	1615 Nov 17 16:29	5° $\overline{\text{J}}$ 01'05			1621 May 11 02:19	0° $\overline{\text{II}}$ 22'06	
max. Earth dist.	1615 Nov 28 06:05	7° $\overline{\text{J}}$ 23'43	6.30203 AU				
				conjunction	1621 May 24 19:28	3° $\overline{\text{II}}$ 33'55	0°-36'-1
conjunction	1615 Nov 30 08:20	7° $\overline{\text{J}}$ 52'04	0°32'08	minimum elong	1621 May 24 19:31	3° $\overline{\text{II}}$ 33'57	0°36'02
minimum elong	1615 Nov 30 08:21	7° $\overline{\text{J}}$ 52'05	0°32'08	max. Earth dist.	1621 May 27 01:27	4° $\overline{\text{II}}$ 05'25	6.06890 AU
morning rise	1615 Dec 12 23:10	10° $\overline{\text{J}}$ 42'44		morning rise	1621 Jun 07 14:29	6° $\overline{\text{II}}$ 46'23	
retrograde	1616 Apr 14 19:58	28° $\overline{\text{J}}$ 38'35		retrograde	1621 Oct 14 06:06	26° $\overline{\text{II}}$ 12'04	
opposition	1616 Jun 14 17:41	23° $\overline{\text{J}}$ 45'50	0°21'46	opposition	1621 Dec 12 20:12	21° $\overline{\text{II}}$ 07'38	0°-26'-11
min. Earth dist.	1616 Jun 16 02:31	23° $\overline{\text{J}}$ 35'20	4.23443 AU	min. Earth dist.	1621 Dec 11 12:28	21° $\overline{\text{II}}$ 18'26	4.13542 AU
direct	1616 Aug 15 07:25	18° $\overline{\text{J}}$ 48'18		direct	1622 Feb 09 18:18	16° $\overline{\text{II}}$ 07'57	
	1616 Nov 15 18:01	0° $\overline{3}$			1622 May 25 05:41	0° $\overline{3}$	
desc. node	1616 Nov 16 20:38	0° $\overline{3}$ 13'53		asc. node	1622 Jun 13 11:13	4° $\overline{3}$ 13'34	
evening set	1616 Dec 18 16:22	7° $\overline{3}$ 17'43		evening set	1622 Jun 16 08:27	4° $\overline{3}$ 52'22	
max. Earth dist.	1616 Dec 29 20:12	9° $\overline{3}$ 53'08	6.16365 AU				
				conjunction	1622 Jun 30 02:20	7° $\overline{3}$ 58'18	0°01'39
conjunction	1616 Dec 31 09:17	10° $\overline{3}$ 14'44	0°-4'-22	minimum elong	1622 Jun 30 02:18	7° $\overline{3}$ 58'17	0°01'39
minimum elong	1616 Dec 31 09:17	10° $\overline{3}$ 14'44	0°04'23	behind sun begin	1622 Jun 29 17:56	7° $\overline{3}$ 53'35	

behind sun end	1622 Jun 30 10:40	8° $\overline{50}$ 2'59		morning rise	1627 Dec 17 05:15	15° $\overline{27}$ 07'41	
max. Earth dist.	1622 Jul 01 21:05	8° $\overline{50}$ 22'26	6.20712 AU		1628 Mar 04 05:46	0° $\overline{3}$	
morning rise	1622 Jul 13 19:43	11° $\overline{50}$ 03'45		retrograde	1628 Apr 19 11:56	3° $\overline{30}$ 09'51	
retrograde	1622 Nov 15 21:50	29° $\overline{50}$ 20'57			1628 Jun 05 15:11	30° \overline{R} $\overline{27}$	
opposition	1623 Jan 14 15:44	24° $\overline{50}$ 19'28	0°29'44	opposition	1628 Jun 19 09:10	28° $\overline{27}$ 16'53	0°14'20
min. Earth dist.	1623 Jan 13 19:48	24° $\overline{50}$ 26'10	4.27664 AU	min. Earth dist.	1628 Jun 20 17:55	28° $\overline{27}$ 06'25	4.21911 AU
direct	1623 Mar 15 20:43	19° $\overline{50}$ 17'36		direct	1628 Aug 19 19:53	23° $\overline{27}$ 19'38	
	1623 Jun 15 07:35	0° $\overline{0}$		desc. node	1628 Sep 28 19:20	25° $\overline{27}$ 44'21	
evening set	1623 Jul 20 18:19	7° $\overline{0}$ 26'07			1628 Oct 27 15:03	0° $\overline{3}$	
				evening set	1628 Dec 23 02:26	11° $\overline{3}$ 52'53	
conjunction	1623 Aug 03 07:02	10° $\overline{0}$ 24'13	0°37'08	max. Earth dist.	1629 Jan 03 06:38	14° $\overline{3}$ 29'09	6.14664 AU
minimum elong	1623 Aug 03 07:00	10° $\overline{0}$ 24'11	0°37'08				
max. Earth dist.	1623 Aug 03 23:13	10° $\overline{0}$ 33'06	6.34052 AU	conjunction	1629 Jan 04 19:29	14° $\overline{3}$ 50'41	0°-9'-32
morning rise	1623 Aug 16 18:01	13° $\overline{0}$ 21'11		minimum elong	1629 Jan 04 19:29	14° $\overline{3}$ 50'41	0°09'33
	1623 Aug 24 08:19	15° $\overline{0}$		behind sun begin	1629 Jan 04 12:48	14° $\overline{3}$ 46'48	
	1623 Nov 25 17:17	0° $\overline{0}$		behind sun end	1629 Jan 05 02:10	14° $\overline{3}$ 54'34	
retrograde	1623 Dec 16 20:51	0° $\overline{0}$ 42'39		morning rise	1629 Jan 17 13:14	17° $\overline{3}$ 49'05	
	1624 Jan 06 20:53	30° \overline{R} $\overline{0}$			1629 Mar 15 23:10	0° $\overline{\approx}$	
opposition	1624 Feb 14 21:44	25° $\overline{0}$ 44'55	1°13'34	retrograde	1629 May 25 09:28	6° $\overline{\approx}$ 58'53	
min. Earth dist.	1624 Feb 14 19:47	25° $\overline{0}$ 45'33	4.39256 AU	opposition	1629 Jul 25 00:39	2° $\overline{\approx}$ 03'17	0°-42'-30
direct	1624 Apr 16 10:23	20° $\overline{0}$ 41'59		min. Earth dist.	1629 Jul 25 17:02	1° $\overline{\approx}$ 57'57	4.07671 AU
	1624 Jul 11 00:59	0° $\overline{0}$			1629 Aug 10 08:39	30° \overline{R} $\overline{3}$	
evening set	1624 Aug 21 07:09	8° $\overline{0}$ 24'18		direct	1629 Sep 23 00:04	27° $\overline{3}$ 08'26	
					1629 Nov 04 18:01	0° $\overline{\approx}$	
conjunction	1624 Sep 03 12:31	11° $\overline{0}$ 15'42	1°00'31		1630 Jan 20 13:17	15° $\overline{\approx}$	
minimum elong	1624 Sep 03 12:29	11° $\overline{0}$ 15'41	1°00'32	evening set	1630 Jan 26 05:02	16° $\overline{\approx}$ 20'30	
max. Earth dist.	1624 Sep 03 02:21	11° $\overline{0}$ 10'11	6.43004 AU				
morning rise	1624 Sep 16 14:56	14° $\overline{0}$ 05'38		conjunction	1630 Feb 08 02:29	19° $\overline{\approx}$ 25'42	0°-45'-3
	1624 Dec 21 15:19	0° $\overline{0}$		minimum elong	1630 Feb 08 02:27	19° $\overline{\approx}$ 25'41	0°45'04
retrograde	1625 Jan 14 23:16	0° $\overline{0}$ 55'35		max. Earth dist.	1630 Feb 07 17:43	19° $\overline{\approx}$ 20'27	6.01782 AU
	1625 Feb 08 07:24	30° \overline{R} $\overline{0}$		morning rise	1630 Feb 21 01:51	22° $\overline{\approx}$ 32'11	
opposition	1625 Mar 16 09:45	26° $\overline{0}$ 01'07	1°35'30		1630 Mar 25 12:12	0° $\overline{\times}$	
min. Earth dist.	1625 Mar 17 00:52	25° $\overline{0}$ 56'14	4.45105 AU	retrograde	1630 Jul 02 05:10	12° $\overline{\times}$ 45'27	
direct	1625 May 17 19:48	20° $\overline{0}$ 58'23		opposition	1630 Aug 31 09:09	7° $\overline{\times}$ 46'07	-1°-27'-6
	1625 Aug 10 14:58	0° $\overline{0}$		min. Earth dist.	1630 Aug 31 04:13	7° $\overline{\times}$ 47'45	3.97450 AU
evening set	1625 Sep 21 11:19	8° $\overline{0}$ 29'24		direct	1630 Oct 29 00:39	2° $\overline{\times}$ 52'32	
max. Earth dist.	1625 Oct 02 23:01	10° $\overline{0}$ 58'22	6.45226 AU	evening set	1631 Mar 03 09:22	22° $\overline{\times}$ 32'14	
conjunction	1625 Oct 04 09:25	11° $\overline{0}$ 17'01	1°06'53	conjunction	1631 Mar 16 13:45	25° $\overline{\times}$ 43'35	-1°-4'-52
minimum elong	1625 Oct 04 09:25	11° $\overline{0}$ 17'01	1°06'52	minimum elong	1631 Mar 16 13:45	25° $\overline{\times}$ 43'35	1°04'54
morning rise	1625 Oct 17 04:47	14° $\overline{0}$ 03'21		max. Earth dist.	1631 Mar 17 13:27	25° $\overline{\times}$ 57'56	5.95144 AU
	1626 Jan 22 04:30	0° $\overline{0}$		morning rise	1631 Mar 29 21:16	28° $\overline{\times}$ 56'38	
retrograde	1626 Feb 14 08:57	0° $\overline{0}$ 49'49			1631 Apr 03 06:59	0° $\overline{\Upsilon}$	
	1626 Mar 09 12:37	30° \overline{R} $\overline{0}$		retrograde	1631 Aug 09 10:26	19° $\overline{\Upsilon}$ 38'53	
opposition	1626 Apr 16 02:17	25° $\overline{0}$ 57'27	1°31'53	min. Earth dist.	1631 Oct 07 02:48	14° $\overline{\Upsilon}$ 44'32	3.95308 AU
min. Earth dist.	1626 Apr 17 08:37	25° $\overline{0}$ 47'45	4.43656 AU	opposition	1631 Oct 08 04:40	14° $\overline{\Upsilon}$ 35'48	-1°-38'-26
direct	1626 Jun 17 21:49	20° $\overline{0}$ 55'49		direct	1631 Dec 05 01:22	9° $\overline{\Upsilon}$ 41'23	
	1626 Sep 10 13:04	0° $\overline{0}$		evening set	1632 Apr 08 21:04	29° $\overline{\Upsilon}$ 23'26	
evening set	1626 Oct 22 01:04	8° $\overline{0}$ 32'19			1632 Apr 11 10:25	0° $\overline{\text{B}}$	
max. Earth dist.	1626 Nov 01 18:01	10° $\overline{0}$ 53'19	6.40134 AU				
				conjunction	1632 Apr 22 09:27	2° $\overline{\text{B}}$ 37'21	0°-59'-20
conjunction	1626 Nov 03 18:31	11° $\overline{0}$ 20'02	0°55'10	minimum elong	1632 Apr 22 09:29	2° $\overline{\text{B}}$ 37'22	0°59'21
minimum elong	1626 Nov 03 18:33	11° $\overline{0}$ 20'03	0°55'11	max. Earth dist.	1632 Apr 24 10:08	3° $\overline{\text{B}}$ 06'30	5.97612 AU
morning rise	1626 Nov 16 09:49	14° $\overline{0}$ 06'51		morning rise	1632 May 06 00:50	5° $\overline{\text{B}}$ 52'39	
	1626 Nov 20 11:06	15° $\overline{0}$			1632 Jun 15 09:29	15° $\overline{\text{B}}$	
	1627 Feb 16 16:03	0° $\overline{0}$		retrograde	1632 Sep 14 08:43	26° $\overline{\text{B}}$ 12'00	
retrograde	1627 Mar 17 21:31	1° $\overline{0}$ 18'17		min. Earth dist.	1632 Nov 11 11:38	21° $\overline{\text{B}}$ 18'48	4.02140 AU
	1627 Apr 16 06:45	30° \overline{R} $\overline{0}$		opposition	1632 Nov 12 22:29	21° $\overline{\text{B}}$ 06'54	-1°-10'-36
opposition	1627 May 17 20:16	26° $\overline{0}$ 26'22	1°03'10	direct	1633 Jan 10 00:10	16° $\overline{\text{B}}$ 09'51	
min. Earth dist.	1627 May 19 08:14	26° $\overline{0}$ 14'54	4.35207 AU		1633 Apr 22 04:32	0° $\overline{\text{H}}$	
direct	1627 Jul 19 06:16	21° $\overline{0}$ 26'38		evening set	1633 May 16 07:00	5° $\overline{\text{H}}$ 27'46	
	1627 Oct 08 00:31	0° $\overline{0}$					
evening set	1627 Nov 21 22:40	9° $\overline{0}$ 25'04		conjunction	1633 May 30 00:53	8° $\overline{\text{H}}$ 39'19	0°-31'-5
max. Earth dist.	1627 Dec 02 13:47	11° $\overline{0}$ 48'55	6.28959 AU	minimum elong	1633 May 30 00:55	8° $\overline{\text{H}}$ 39'20	0°31'05
				max. Earth dist.	1633 Jun 01 08:34	9° $\overline{\text{H}}$ 11'41	6.08144 AU
conjunction	1627 Dec 04 14:30	12° $\overline{0}$ 16'30	0°27'38	morning rise	1633 Jun 12 20:02	11° $\overline{\text{H}}$ 51'17	
minimum elong	1627 Dec 04 14:32	12° $\overline{0}$ 16'31	0°27'37		1633 Sep 22 08:11	0° $\overline{\text{D}}$	

retrograde	1633 Oct 19 01:42	1°♏09'07		minimum elong	1638 Nov 08 01:33	15°♍45'09	0°52'07
	1633 Nov 14 12:10	30°♐♐		morning rise	1638 Nov 20 16:31	18°♍32'19	
min. Earth dist.	1633 Dec 16 07:39	26°♐15'36	4.15133 AU		1639 Jan 17 04:35	0°♐	
opposition	1633 Dec 17 14:55	26°♐04'58	0°-18'-4	retrograde	1639 Mar 22 12:53	5°♐49'17	
direct	1634 Feb 14 16:21	21°♐04'57		opposition	1639 May 22 10:43	0°♐57'21	0°57'16
asc. node	1634 Apr 22 09:42	27°♐29'58		min. Earth dist.	1639 May 24 00:00	0°♐45'29	4.33580 AU
	1634 May 06 04:03	0°♏			1639 May 29 23:47	30°♐♍	
evening set	1634 Jun 21 09:03	9°♏45'07		direct	1639 Jul 23 19:10	25°♍57'56	
					1639 Sep 15 02:58	0°♐	
conjunction	1634 Jul 05 02:22	12°♏50'04	0°07'09	evening set	1639 Nov 26 09:04	14°♐00'38	
minimum elong	1634 Jul 05 02:21	12°♏50'04	0°07'09	max. Earth dist.	1639 Dec 06 23:41	16°♐24'52	6.27011 AU
behind sun begin	1634 Jul 04 18:42	12°♏45'47					
behind sun end	1634 Jul 05 10:00	12°♏54'21		conjunction	1639 Dec 09 00:52	16°♐52'50	0°22'45
max. Earth dist.	1634 Jul 06 17:48	13°♏12'15	6.22491 AU	minimum elong	1639 Dec 09 00:53	16°♐52'51	0°22'45
morning rise	1634 Jul 18 19:19	15°♏54'30		morning rise	1639 Dec 21 15:56	19°♐44'56	
	1634 Sep 29 09:43	0°♏			1640 Feb 08 07:51	0°♏	
retrograde	1634 Nov 20 09:58	4°♏03'10		retrograde	1640 Apr 24 09:14	7°♏56'05	
	1635 Jan 11 22:55	30°♐♏		opposition	1640 Jun 24 06:24	3°♏02'49	0°06'23
min. Earth dist.	1635 Jan 18 10:55	29°♏08'05	4.29451 AU	min. Earth dist.	1640 Jun 25 12:56	2°♏53'01	4.19768 AU
opposition	1635 Jan 19 04:51	29°♏02'05	0°37'03		1640 Jul 19 21:37	30°♐♐	
direct	1635 Mar 20 14:39	23°♏59'55		desc. node	1640 Aug 08 02:17	28°♐31'16	
	1635 May 25 08:58	0°♏		direct	1640 Aug 24 11:24	28°♐05'53	
evening set	1635 Jul 25 12:08	12°♏03'55			1640 Sep 28 18:03	0°♏	
	1635 Aug 07 22:17	15°♏		evening set	1640 Dec 27 18:56	16°♏45'08	
				max. Earth dist.	1641 Jan 08 03:42	19°♏24'46	6.12525 AU
conjunction	1635 Aug 08 00:01	15°♏00'57	0°41'22				
minimum elong	1635 Aug 07 23:59	15°♏00'56	0°41'21	conjunction	1641 Jan 09 12:31	19°♏44'03	0°-14'-58
max. Earth dist.	1635 Aug 08 14:18	15°♏08'47	6.35691 AU	minimum elong	1641 Jan 09 12:30	19°♏44'02	0°14'59
morning rise	1635 Aug 21 09:39	17°♏56'43		behind sun begin	1641 Jan 09 09:17	19°♏42'09	
	1635 Oct 22 04:12	0°♐		behind sun end	1641 Jan 09 15:44	19°♏45'55	
retrograde	1635 Dec 21 04:08	5°♐11'48		morning rise	1641 Jan 22 06:47	22°♏43'36	
opposition	1636 Feb 19 06:41	0°♐14'32	1°18'09		1641 Feb 23 13:45	0°♐	
min. Earth dist.	1636 Feb 19 06:28	0°♐14'37	4.40599 AU	retrograde	1641 May 30 16:36	12°♐03'46	
	1636 Feb 21 02:58	30°♐♏		opposition	1641 Jul 30 05:23	7°♐07'43	0°-50'-7
direct	1636 Apr 20 22:41	25°♏11'36		min. Earth dist.	1641 Jul 30 20:00	7°♐02'58	4.05716 AU
	1636 Jun 19 03:26	0°♐		direct	1641 Sep 28 00:37	2°♐13'10	
evening set	1636 Aug 25 19:11	12°♐50'46			1642 Jan 03 02:51	15°♐	
				evening set	1642 Jan 31 05:16	21°♐30'50	
conjunction	1636 Sep 07 23:14	15°♐41'19	1°02'30				
minimum elong	1636 Sep 07 23:13	15°♐41'18	1°02'31	conjunction	1642 Feb 13 03:31	24°♐37'08	0°-49'-8
max. Earth dist.	1636 Sep 07 08:09	15°♐33'09	6.43911 AU	minimum elong	1642 Feb 13 03:29	24°♐37'06	0°49'09
morning rise	1636 Sep 21 00:39	18°♐30'28		max. Earth dist.	1642 Feb 12 22:28	24°♐34'05	6.00198 AU
	1636 Nov 19 07:50	0°♏		morning rise	1642 Feb 26 04:05	27°♐44'49	
retrograde	1637 Jan 19 06:39	5°♏17'39			1642 Mar 07 15:49	0°♐	
opposition	1637 Mar 20 17:25	0°♏23'34	1°36'32	retrograde	1642 Jul 07 15:22	18°♐05'34	
min. Earth dist.	1637 Mar 21 11:45	0°♏17'38	4.45514 AU	opposition	1642 Sep 05 18:15	13°♐05'43	-1°-31'-6
	1637 Mar 23 18:22	30°♐♐		min. Earth dist.	1642 Sep 05 09:02	13°♐08'46	3.96452 AU
direct	1637 May 22 06:39	25°♐20'52		direct	1642 Nov 03 04:57	8°♐12'11	
	1637 Jul 19 20:17	0°♏		evening set	1643 Mar 08 16:19	27°♐54'30	
evening set	1637 Sep 25 19:24	12°♏51'08			1643 Mar 17 08:03	0°♐	
max. Earth dist.	1637 Oct 07 04:19	15°♏18'42	6.45086 AU				
				conjunction	1643 Mar 21 21:49	1°♐06'31	-1°-5'-42
conjunction	1637 Oct 08 16:48	15°♏38'29	1°06'17	minimum elong	1643 Mar 21 21:49	1°♐06'31	1°05'43
minimum elong	1637 Oct 08 16:48	15°♏38'30	1°06'17	max. Earth dist.	1643 Mar 23 01:53	1°♐23'32	5.94833 AU
morning rise	1637 Oct 21 11:16	18°♏24'34		morning rise	1643 Apr 04 06:29	4°♐20'14	
	1637 Dec 20 04:07	0°♍		retrograde	1643 Aug 14 18:55	25°♐02'40	
retrograde	1638 Feb 18 16:23	5°♍12'26		min. Earth dist.	1643 Oct 12 08:44	20°♐08'35	3.95748 AU
opposition	1638 Apr 20 11:41	0°♍20'13	1°29'14	opposition	1643 Oct 13 12:41	19°♐59'07	-1°-36'-41
min. Earth dist.	1638 Apr 21 18:38	0°♍10'20	4.42976 AU	direct	1643 Dec 10 09:20	15°♐04'23	
	1638 Apr 23 03:02	30°♐♏			1644 Mar 24 22:57	0°♐	
direct	1638 Jun 22 05:45	25°♏18'49		evening set	1644 Apr 14 05:58	4°♏44'16	
	1638 Aug 19 21:09	0°♍					
evening set	1638 Oct 26 08:33	12°♍57'09		conjunction	1644 Apr 27 19:28	7°♏58'07	0°-56'-27
	1638 Nov 04 15:51	15°♍		minimum elong	1644 Apr 27 19:31	7°♏58'08	0°56'29
max. Earth dist.	1638 Nov 06 00:15	15°♍17'54	6.38959 AU	max. Earth dist.	1644 Apr 30 00:20	8°♏29'39	5.98778 AU
				morning rise	1644 May 11 11:34	11°♏13'12	
conjunction	1638 Nov 08 01:31	15°♍45'08	0°52'07		1644 May 27 16:43	15°♏	

	1644 Aug 20 19:53	0°♂		minimum elong	1649 Oct 12 22:04	19°♂55'03	1°05'21
retrograde	1644 Sep 19 11:23	1°♂24'48		morning rise	1649 Oct 25 16:02	22°♂41'08	
	1644 Oct 18 19:20	30°♂			1649 Nov 30 00:11	0°♂	
min. Earth dist.	1644 Nov 16 12:51	26°♂31'41	4.03896 AU	retrograde	1650 Feb 23 02:23	9°♂32'11	
opposition	1644 Nov 18 00:09	26°♂19'39	-1°-4'-6	opposition	1650 Apr 24 20:41	4°♂40'08	1°26'11
direct	1645 Jan 15 04:37	21°♂22'09		min. Earth dist.	1650 Apr 26 06:11	4°♂29'26	4.41760 AU
	1645 Apr 02 15:11	0°♂			1650 Jun 11 07:19	30°♂	
evening set	1645 May 21 12:14	10°♂34'09		direct	1650 Jun 26 14:49	29°♂38'55	
					1650 Jul 11 22:46	0°♂	
conjunction	1645 Jun 04 06:12	13°♂44'47	0°-25'-55		1650 Oct 19 21:02	15°♂	
minimum elong	1645 Jun 04 06:14	13°♂44'48	0°25'56	evening set	1650 Oct 30 15:43	17°♂20'52	
max. Earth dist.	1645 Jun 06 12:07	14°♂15'57	6.10309 AU	max. Earth dist.	1650 Nov 10 06:21	19°♂41'35	6.37238 AU
morning rise	1645 Jun 18 01:31	16°♂55'45					
	1645 Aug 20 08:36	0°♂		conjunction	1650 Nov 12 08:32	20°♂09'25	0°48'48
retrograde	1645 Oct 23 17:02	6°♂02'29		minimum elong	1650 Nov 12 08:34	20°♂09'26	0°48'48
min. Earth dist.	1645 Dec 21 01:53	1°♂08'50	4.17472 AU	morning rise	1650 Nov 24 23:20	22°♂57'14	
opposition	1645 Dec 22 08:08	0°♂58'34	0°-9'-59		1650 Dec 28 04:03	0°♂	
	1645 Dec 29 13:59	30°♂		retrograde	1651 Mar 27 03:35	10°♂21'38	
direct	1646 Feb 19 14:06	25°♂58'06		opposition	1651 May 27 02:01	5°♂29'38	0°51'02
asc. node	1646 Mar 02 01:20	26°♂08'58		min. Earth dist.	1651 May 28 14:17	5°♂18'04	4.31469 AU
	1646 Apr 12 10:39	0°♂		direct	1651 Jul 28 05:38	0°♂30'35	
evening set	1646 Jun 26 06:54	14°♂31'35		evening set	1651 Nov 30 20:53	18°♂39'15	
				max. Earth dist.	1651 Dec 11 13:39	21°♂05'29	6.24685 AU
conjunction	1646 Jul 09 23:43	17°♂35'16	0°12'26				
minimum elong	1646 Jul 09 23:42	17°♂35'15	0°12'27	conjunction	1651 Dec 13 12:49	21°♂32'28	0°17'42
behind sun begin	1646 Jul 09 18:26	17°♂32'19		minimum elong	1651 Dec 13 12:50	21°♂32'28	0°17'43
behind sun end	1646 Jul 10 04:58	17°♂38'12		morning rise	1651 Dec 26 04:12	24°♂25'40	
max. Earth dist.	1646 Jul 11 12:36	17°♂55'55	6.24818 AU		1652 Jan 20 07:20	0°♂	
morning rise	1646 Jul 23 15:39	20°♂38'15		retrograde	1652 Apr 29 11:43	12°♂47'20	
	1646 Sep 06 11:58	0°♂		desc. node	1652 Jun 17 05:41	9°♂24'48	
retrograde	1646 Nov 24 19:30	8°♂37'03		opposition	1652 Jun 29 06:24	7°♂53'49	0°-1'-42
opposition	1647 Jan 23 14:53	3°♂36'30	0°43'53	min. Earth dist.	1652 Jun 30 11:56	7°♂44'19	4.17388 AU
min. Earth dist.	1647 Jan 22 23:40	3°♂41'35	4.31560 AU	direct	1652 Aug 29 07:25	2°♂57'19	
	1647 Feb 22 22:54	30°♂		evening set	1653 Jan 01 13:51	21°♂43'15	
direct	1647 Mar 25 05:47	28°♂34'09		max. Earth dist.	1653 Jan 13 02:20	24°♂25'51	6.10311 AU
	1647 Apr 24 22:07	0°♂					
	1647 Jul 22 22:21	15°♂		conjunction	1653 Jan 14 07:59	24°♂43'20	0°-20'-23
evening set	1647 Jul 30 02:35	16°♂32'54		minimum elong	1653 Jan 14 07:58	24°♂43'19	0°20'24
				morning rise	1653 Jan 27 03:05	27°♂44'12	
conjunction	1647 Aug 12 13:17	19°♂28'46	0°45'13		1653 Feb 05 20:19	0°♂	
minimum elong	1647 Aug 12 13:15	19°♂28'45	0°45'13		1653 Apr 27 16:35	15°♂	
max. Earth dist.	1647 Aug 12 22:08	19°♂33'36	6.37399 AU	retrograde	1653 Jun 05 00:19	17°♂14'52	
morning rise	1647 Aug 25 21:51	22°♂23'22			1653 Jul 13 15:14	15°♂	
	1647 Oct 01 15:59	0°♂		opposition	1653 Aug 04 12:41	12°♂18'21	0°-57'-28
retrograde	1647 Dec 25 08:43	9°♂32'21		min. Earth dist.	1653 Aug 04 22:52	12°♂15'02	4.03902 AU
opposition	1648 Feb 23 12:35	4°♂35'33	1°22'08	direct	1653 Oct 03 01:37	7°♂24'08	
min. Earth dist.	1648 Feb 23 15:31	4°♂34'35	4.41816 AU		1653 Dec 13 22:35	15°♂	
	1648 Apr 08 01:56	30°♂		evening set	1654 Feb 05 08:10	26°♂46'47	
direct	1648 Apr 25 08:17	29°♂32'29					
	1648 May 12 18:46	0°♂		conjunction	1654 Feb 18 07:17	29°♂54'02	0°-52'-52
evening set	1648 Aug 30 03:45	17°♂09'11		minimum elong	1654 Feb 18 07:14	29°♂54'00	0°52'53
				max. Earth dist.	1654 Feb 18 07:42	29°♂54'17	5.98947 AU
conjunction	1648 Sep 12 06:56	19°♂59'05	1°04'06		1654 Feb 18 17:11	0°♂	
minimum elong	1648 Sep 12 06:55	19°♂59'04	1°04'06	morning rise	1654 Mar 03 08:51	3°♂02'45	
max. Earth dist.	1648 Sep 11 13:04	19°♂49'25	6.44536 AU	retrograde	1654 Jul 13 03:31	23°♂29'18	
morning rise	1648 Sep 25 07:06	22°♂47'32		opposition	1654 Sep 11 04:34	18°♂28'49	-1°-34'-20
	1648 Oct 30 07:59	0°♂		min. Earth dist.	1654 Sep 10 16:15	18°♂32'55	3.95912 AU
retrograde	1649 Jan 23 10:31	9°♂33'13		direct	1654 Nov 08 12:53	13°♂35'14	
opposition	1649 Mar 24 22:58	4°♂39'30	1°37'03		1655 Feb 28 02:57	0°♂	
min. Earth dist.	1649 Mar 25 19:15	4°♂32'58	4.45526 AU	evening set	1655 Mar 14 00:08	3°♂18'18	
	1649 May 10 13:27	30°♂					
direct	1649 May 26 12:53	29°♂36'57		conjunction	1655 Mar 27 06:53	6°♂30'46	-1°-5'-59
	1649 Jun 11 15:52	0°♂		minimum elong	1655 Mar 27 06:53	6°♂30'46	1°05'59
evening set	1649 Sep 30 01:34	17°♂07'46		max. Earth dist.	1655 Mar 28 16:53	6°♂51'20	5.95039 AU
max. Earth dist.	1649 Oct 11 05:27	19°♂32'57	6.44464 AU	morning rise	1655 Apr 09 16:37	9°♂44'52	
					1655 Aug 04 04:56	0°♂	
conjunction	1649 Oct 12 22:03	19°♂55'02	1°05'20	retrograde	1655 Aug 20 03:21	0°♂24'56	

	1655 Sep 04 22:34	30° \mathbb{R} \mathbb{Y}		conjunction	1661 Oct 17 04:50	24° \mathbb{A} 16'08	1°04'01
opposition	1655 Oct 18 19:53	25° \mathbb{Y} 21'01	-1°-34'-6	minimum elong	1661 Oct 17 04:51	24° \mathbb{A} 16'09	1°04'01
min. Earth dist.	1655 Oct 17 14:07	25° \mathbb{Y} 31'07	3.96682 AU	morning rise	1661 Oct 29 22:03	27° \mathbb{A} 02'18	
direct	1655 Dec 15 16:09	20° \mathbb{Y} 26'02			1661 Nov 12 17:49	0° \mathbb{M}	
	1656 Mar 05 17:48	0° \mathbb{X}		retrograde	1662 Feb 27 11:51	13° \mathbb{M} 56'59	
evening set	1656 Apr 19 13:52	10° \mathbb{X} 02'05		opposition	1662 Apr 29 07:31	9° \mathbb{M} 05'02	1°22'34
				min. Earth dist.	1662 Apr 30 17:28	8° \mathbb{M} 54'13	4.40476 AU
conjunction	1656 May 03 04:03	13° \mathbb{X} 15'35	0°-53'-8	direct	1662 Jun 30 23:43	4° \mathbb{M} 04'09	
minimum elong	1656 May 03 04:06	13° \mathbb{X} 15'37	0°53'09		1662 Oct 02 19:30	15° \mathbb{M}	
max. Earth dist.	1656 May 05 09:18	13° \mathbb{X} 47'12	6.00307 AU	evening set	1662 Nov 04 00:26	21° \mathbb{M} 49'35	
	1656 May 10 12:06	15° \mathbb{X}		max. Earth dist.	1662 Nov 14 13:48	24° \mathbb{M} 10'13	6.35568 AU
morning rise	1656 May 16 21:03	16° \mathbb{X} 30'18					
	1656 Jul 19 08:30	0° \mathbb{I}		conjunction	1662 Nov 16 16:51	24° \mathbb{M} 38'40	0°45'08
retrograde	1656 Sep 24 09:43	6° \mathbb{I} 33'03		minimum elong	1662 Nov 16 16:52	24° \mathbb{M} 38'41	0°45'07
min. Earth dist.	1656 Nov 21 11:52	1° \mathbb{I} 40'08	4.05841 AU	morning rise	1662 Nov 29 07:42	27° \mathbb{M} 27'09	
opposition	1656 Nov 22 23:40	1° \mathbb{I} 27'55	0°-57'-12		1662 Dec 10 22:01	0° \mathbb{J}	
	1656 Dec 03 21:49	30° \mathbb{R} \mathbb{X}		retrograde	1663 Mar 31 22:18	14° \mathbb{J} 58'52	
direct	1657 Jan 20 06:55	26° \mathbb{X} 29'59		opposition	1663 May 31 19:34	10° \mathbb{J} 06'45	0°44'21
	1657 Mar 08 10:44	0° \mathbb{I}		min. Earth dist.	1663 Jun 02 08:02	9° \mathbb{J} 55'07	4.29511 AU
evening set	1657 May 26 15:27	15° \mathbb{I} 35'56		direct	1663 Aug 01 20:55	5° \mathbb{J} 08'04	
				evening set	1663 Dec 05 09:55	23° \mathbb{J} 21'49	
conjunction	1657 Jun 09 09:39	18° \mathbb{I} 45'38	0°-20'-38	max. Earth dist.	1663 Dec 16 05:06	25° \mathbb{J} 50'07	6.22632 AU
minimum elong	1657 Jun 09 09:40	18° \mathbb{I} 45'39	0°20'40				
max. Earth dist.	1657 Jun 11 14:12	19° \mathbb{I} 15'53	6.12512 AU	conjunction	1663 Dec 18 02:06	26° \mathbb{J} 15'57	0°12'28
morning rise	1657 Jun 23 04:41	21° \mathbb{I} 55'30		minimum elong	1663 Dec 18 02:06	26° \mathbb{J} 15'57	0°12'28
	1657 Jul 30 04:59	0° \mathbb{G}		behind sun begin	1663 Dec 17 20:49	26° \mathbb{J} 12'56	
retrograde	1657 Oct 28 08:50	10° \mathbb{G} 51'37		behind sun end	1663 Dec 18 07:23	26° \mathbb{J} 18'59	
opposition	1657 Dec 26 23:30	5° \mathbb{G} 48'08	0°-1'-57	morning rise	1663 Dec 30 17:47	29° \mathbb{J} 10'08	
min. Earth dist.	1657 Dec 25 19:46	5° \mathbb{G} 57'32	4.19701 AU		1664 Jan 03 09:17	0° \mathbb{C}	
asc. node	1658 Jan 09 16:24	3° \mathbb{G} 59'28		desc. node	1664 Apr 26 07:33	17° \mathbb{C} 34'49	
direct	1658 Feb 24 10:28	0° \mathbb{G} 47'22		retrograde	1664 May 04 11:41	17° \mathbb{C} 41'09	
evening set	1658 Jul 01 03:16	19° \mathbb{G} 14'58		opposition	1664 Jul 04 07:05	12° \mathbb{C} 47'17	0°-9'-54
				min. Earth dist.	1664 Jul 05 09:24	12° \mathbb{C} 38'49	4.15416 AU
conjunction	1658 Jul 14 19:25	22° \mathbb{G} 17'29	0°17'37	direct	1664 Sep 03 02:34	7° \mathbb{C} 51'12	
minimum elong	1658 Jul 14 19:24	22° \mathbb{G} 17'29	0°17'36	evening set	1665 Jan 06 09:23	26° \mathbb{C} 42'13	
max. Earth dist.	1658 Jul 16 04:30	22° \mathbb{G} 35'55	6.26897 AU	max. Earth dist.	1665 Jan 18 02:26	29° \mathbb{C} 28'08	6.08604 AU
morning rise	1658 Jul 28 10:34	25° \mathbb{G} 19'14					
	1658 Aug 19 01:37	0° \mathbb{Q}		conjunction	1665 Jan 19 03:56	29° \mathbb{C} 43'14	0°-25'-39
retrograde	1658 Nov 29 02:27	13° \mathbb{Q} 09'30		minimum elong	1665 Jan 19 03:54	29° \mathbb{C} 43'13	0°25'39
min. Earth dist.	1659 Jan 27 10:56	8° \mathbb{Q} 13'51	4.33347 AU		1665 Jan 20 08:15	0° \mathbb{R}	
opposition	1659 Jan 28 00:06	8° \mathbb{Q} 09'27	0°50'26	morning rise	1665 Jan 31 23:46	2° \mathbb{R} 45'09	
direct	1659 Mar 29 18:39	3° \mathbb{Q} 06'56			1665 Mar 29 19:26	15° \mathbb{R}	
	1659 Jul 05 23:06	15° \mathbb{Q}		retrograde	1665 Jun 10 08:26	22° \mathbb{R} 24'12	
evening set	1659 Aug 03 16:11	21° \mathbb{Q} 01'40		opposition	1665 Aug 09 19:08	17° \mathbb{R} 27'07	-1°-4'-18
				min. Earth dist.	1665 Aug 10 02:17	17° \mathbb{R} 24'46	4.02624 AU
conjunction	1659 Aug 17 01:54	23° \mathbb{Q} 56'33	0°48'49		1665 Aug 29 10:21	15° \mathbb{R} \mathbb{R}	
minimum elong	1659 Aug 17 01:52	23° \mathbb{Q} 56'32	0°48'49	direct	1665 Oct 08 04:49	12° \mathbb{R} 33'04	
max. Earth dist.	1659 Aug 17 06:51	23° \mathbb{Q} 59'15	6.38770 AU		1665 Nov 16 05:43	15° \mathbb{R}	
morning rise	1659 Aug 30 09:14	26° \mathbb{Q} 50'07			1666 Feb 02 02:37	0° \mathbb{H}	
	1659 Sep 14 04:58	0° \mathbb{P}		evening set	1666 Feb 10 09:38	1° \mathbb{H} 58'36	
retrograde	1659 Dec 29 14:25	13° \mathbb{P} 54'22					
opposition	1660 Feb 27 19:03	8° \mathbb{P} 58'05	1°25'43	conjunction	1666 Feb 23 09:44	5° \mathbb{H} 06'35	0°-56'-7
min. Earth dist.	1660 Feb 28 00:59	8° \mathbb{P} 56'09	4.42695 AU	minimum elong	1666 Feb 23 09:42	5° \mathbb{H} 06'34	0°56'09
direct	1660 Apr 29 18:16	3° \mathbb{P} 55'04		max. Earth dist.	1666 Feb 23 16:05	5° \mathbb{H} 10'25	5.98220 AU
evening set	1660 Sep 03 12:52	21° \mathbb{P} 30'11		morning rise	1666 Mar 08 12:15	8° \mathbb{H} 16'02	
				retrograde	1666 Jul 18 11:58	28° \mathbb{H} 45'53	
conjunction	1660 Sep 16 14:58	24° \mathbb{P} 19'33	1°05'21	opposition	1666 Sep 16 11:58	23° \mathbb{H} 44'51	-1°-36'-40
minimum elong	1660 Sep 16 14:57	24° \mathbb{P} 19'33	1°05'20	min. Earth dist.	1666 Sep 15 20:44	23° \mathbb{H} 49'56	3.95848 AU
max. Earth dist.	1660 Sep 15 16:04	24° \mathbb{P} 07'11	6.44842 AU	direct	1666 Nov 13 17:20	18° \mathbb{H} 51'13	
morning rise	1660 Sep 29 14:16	27° \mathbb{P} 07'32			1667 Feb 10 01:05	0° \mathbb{Y}	
	1660 Oct 13 03:01	0° \mathbb{A}		evening set	1667 Mar 19 05:12	8° \mathbb{Y} 33'23	
retrograde	1661 Jan 27 17:14	13° \mathbb{A} 52'43					
opposition	1661 Mar 29 05:58	8° \mathbb{A} 59'17	1°37'03	conjunction	1667 Apr 01 12:48	11° \mathbb{Y} 46'00	-1°-5'-42
min. Earth dist.	1661 Mar 30 04:50	8° \mathbb{A} 51'55	4.45271 AU	minimum elong	1667 Apr 01 12:48	11° \mathbb{Y} 46'01	1°05'42
direct	1661 May 30 21:22	3° \mathbb{A} 56'49		max. Earth dist.	1667 Apr 03 01:01	12° \mathbb{Y} 07'52	5.95604 AU
evening set	1661 Oct 04 08:50	21° \mathbb{A} 28'48		morning rise	1667 Apr 14 23:43	15° \mathbb{Y} 00'19	
max. Earth dist.	1661 Oct 15 11:21	23° \mathbb{A} 53'32	6.43666 AU		1667 Jun 24 17:10	0° \mathbb{X}	


































































































































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opposition	1667 Oct 23 22:31	0°♄32'13	-1°-30'-48	evening set	1673 Oct 08 16:11	25°♂50'22	
min. Earth dist.	1667 Oct 22 14:45	0°♄43'00	3.97822 AU	max. Earth dist.	1673 Oct 19 15:08	28°♂13'35	6.42809 AU
	1667 Oct 27 21:37	30°♄					
direct	1667 Dec 20 19:27	25°♄36'49		conjunction	1673 Oct 21 11:26	28°♂37'47	1°02'19
	1668 Feb 11 09:14	0°♄		minimum elong	1673 Oct 21 11:27	28°♂37'48	1°02'19
evening set	1668 Apr 24 17:53	15°♄08'42			1673 Oct 27 17:54	0°♄	
	1668 Apr 24 03:05	15°♄		morning rise	1673 Nov 03 04:17	1°♄24'07	
					1674 Jan 15 00:10	15°♄	
conjunction	1668 May 08 08:59	18°♄21'50	0°-49'-31	retrograde	1674 Mar 03 23:08	18°♄22'40	
minimum elong	1668 May 08 09:01	18°♄21'52	0°49'31		1674 Apr 21 21:59	15°♄♄	
max. Earth dist.	1668 May 10 15:19	18°♄53'58	6.01913 AU	opposition	1674 May 03 18:58	13°♄30'46	1°18'27
morning rise	1668 May 22 02:24	21°♄36'00		min. Earth dist.	1674 May 05 05:44	13°♄19'41	4.39238 AU
	1668 Jun 28 13:19	0°♄		direct	1674 Jul 05 10:16	8°♄30'08	
retrograde	1668 Sep 29 05:52	11°♄29'55			1674 Sep 13 03:09	15°♄	
min. Earth dist.	1668 Nov 26 08:45	6°♄36'32	4.07714 AU	evening set	1674 Nov 08 09:02	26°♄18'42	
opposition	1668 Nov 27 18:56	6°♄24'53	0°-50'-8	max. Earth dist.	1674 Nov 18 23:44	28°♄40'34	6.34044 AU
direct	1669 Jan 25 06:05	1°♄26'32					
evening set	1669 May 31 14:51	20°♄27'03		conjunction	1674 Nov 21 01:22	29°♄08'20	0°41'10
				minimum elong	1674 Nov 21 01:24	29°♄08'21	0°41'11
conjunction	1669 Jun 14 09:07	23°♄35'55	0°-15'-24		1674 Nov 24 21:44	0°♄	
minimum elong	1669 Jun 14 09:08	23°♄35'55	0°15'24	morning rise	1674 Dec 03 15:59	1°♄57'23	
behind sun begin	1669 Jun 14 07:20	23°♄34'53		retrograde	1675 Apr 05 14:20	19°♄35'48	
behind sun end	1669 Jun 14 10:56	23°♄36'57		opposition	1675 Jun 05 12:37	14°♄43'31	0°37'22
max. Earth dist.	1669 Jun 16 11:42	24°♄04'53	6.14489 AU	min. Earth dist.	1675 Jun 06 23:49	14°♄32'18	4.27782 AU
morning rise	1669 Jun 28 04:00	26°♄44'48		direct	1675 Aug 06 10:29	9°♄45'13	
	1669 Jul 12 16:17	0°♄		evening set	1675 Dec 09 22:23	28°♄03'17	
retrograde	1669 Nov 01 19:14	15°♄31'29			1675 Dec 18 09:40	0°♄	
asc. node	1669 Nov 20 13:55	14°♄56'33		max. Earth dist.	1675 Dec 20 18:51	0°♄32'58	6.20817 AU
min. Earth dist.	1669 Dec 30 08:55	10°♄37'27	4.21606 AU				
opposition	1669 Dec 31 11:32	10°♄28'27	0°05'49	conjunction	1675 Dec 22 14:34	0°♄58'11	0°07'12
direct	1670 Mar 01 01:34	5°♄27'25		minimum elong	1675 Dec 22 14:34	0°♄58'11	0°07'11
evening set	1670 Jul 05 20:43	23°♄50'31		behind sun begin	1675 Dec 22 07:13	0°♄53'58	
				behind sun end	1675 Dec 22 21:56	1°♄02'24	
conjunction	1670 Jul 19 12:10	26°♄52'02	0°22'32	morning rise	1676 Jan 04 06:44	3°♄53'19	
minimum elong	1670 Jul 19 12:08	26°♄52'01	0°22'32	desc. node	1676 Mar 05 22:45	16°♄37'03	
max. Earth dist.	1670 Jul 20 16:29	27°♄07'46	6.28592 AU	retrograde	1676 May 09 12:31	22°♄33'02	
morning rise	1670 Aug 02 02:26	29°♄52'42		opposition	1676 Jul 09 06:48	17°♄38'45	0°-17'-59
	1670 Aug 02 15:42	0°♄		min. Earth dist.	1676 Jul 10 07:15	17°♄30'52	4.13620 AU
	1670 Oct 23 05:13	15°♄		direct	1676 Sep 07 22:44	12°♄42'56	
retrograde	1670 Dec 03 10:15	17°♄36'06			1677 Jan 04 03:11	0°♄	
	1671 Jan 13 13:04	15°♄♄		evening set	1677 Jan 11 03:25	1°♄38'36	
opposition	1671 Feb 01 07:35	12°♄36'40	0°56'30				
min. Earth dist.	1671 Jan 31 21:54	12°♄39'53	4.34718 AU	conjunction	1677 Jan 23 22:39	4°♄40'34	0°-30'-42
direct	1671 Apr 03 07:01	7°♄34'02		minimum elong	1677 Jan 23 22:37	4°♄40'33	0°30'42
	1671 Jun 17 01:11	15°♄		max. Earth dist.	1677 Jan 23 01:33	4°♄28'02	6.06986 AU
evening set	1671 Aug 08 04:21	25°♄26'13		morning rise	1677 Feb 05 19:08	7°♄43'29	
					1677 Mar 09 16:58	15°♄	
conjunction	1671 Aug 21 13:08	28°♄20'20	0°52'04	retrograde	1677 Jun 15 14:55	27°♄30'40	
minimum elong	1671 Aug 21 13:06	28°♄20'19	0°52'04	opposition	1677 Aug 14 23:46	22°♄33'05	-1°-10'-37
max. Earth dist.	1671 Aug 21 14:09	28°♄20'53	6.39714 AU	min. Earth dist.	1677 Aug 15 04:09	22°♄31'39	4.01351 AU
	1671 Aug 29 04:26	0°♄		direct	1677 Oct 13 04:27	17°♄39'13	
morning rise	1671 Sep 03 19:21	1°♄13'05			1678 Jan 15 16:53	0°♄	
retrograde	1672 Jan 02 18:40	18°♄14'05		evening set	1678 Feb 15 10:17	7°♄08'05	
opposition	1672 Mar 03 00:47	13°♄18'16	1°28'45				
min. Earth dist.	1672 Mar 03 08:37	13°♄15'42	4.43199 AU	conjunction	1678 Feb 28 11:07	10°♄16'49	0°-58'-56
direct	1672 May 04 01:55	8°♄15'19		minimum elong	1678 Feb 28 11:05	10°♄16'48	0°58'56
evening set	1672 Sep 07 21:28	25°♄50'03		max. Earth dist.	1678 Feb 28 20:18	10°♄22'22	5.97386 AU
				morning rise	1678 Mar 13 14:52	13°♄27'09	
conjunction	1672 Sep 20 22:40	28°♄39'03	1°06'12		1678 Jun 02 05:43	0°♄	
minimum elong	1672 Sep 20 22:39	28°♄39'02	1°06'12	retrograde	1678 Jul 23 17:45	4°♄00'45	
max. Earth dist.	1672 Sep 19 21:35	28°♄25'28	6.44875 AU		1678 Sep 14 02:56	30°♄♄	
	1672 Sep 27 04:16	0°♄		opposition	1678 Sep 21 17:37	28°♄59'09	-1°-38'-16
morning rise	1672 Oct 03 20:57	1°♄26'38		min. Earth dist.	1678 Sep 20 23:17	29°♄05'18	3.95564 AU
retrograde	1673 Jan 31 23:52	18°♄12'15		direct	1678 Nov 18 20:23	24°♄05'20	
opposition	1673 Apr 02 13:22	13°♄19'10	1°36'30		1679 Jan 19 12:10	0°♄	
min. Earth dist.	1673 Apr 03 14:10	13°♄11'12	4.44850 AU	evening set	1679 Mar 24 09:54	13°♄47'54	

conjunction	1679 Apr 06 18:47	17° Υ 00'56	-1°-4'-54	retrograde	1685 Feb 05 05:12	22° Ω 31'55	
minimum elong	1679 Apr 06 18:48	17° Υ 00'57	1°04'56	opposition	1685 Apr 06 21:11	17° Ω 39'02	1°35'27
max. Earth dist.	1679 Apr 08 11:16	17° Υ 25'20	5.95897 AU	min. Earth dist.	1685 Apr 07 22:48	17° Ω 30'49	4.44968 AU
morning rise	1679 Apr 20 06:39	20° Υ 15'33		direct	1685 Jun 08 14:38	12° Ω 37'00	
	1679 Jun 02 06:33	0° \mathcal{B}		evening set	1685 Oct 12 22:44	0° \mathcal{M} 09'47	
retrograde	1679 Aug 30 09:59	10° \mathcal{B} 48'52			1685 Oct 12 04:40	0° \mathcal{M}	
min. Earth dist.	1679 Oct 27 17:13	5° \mathcal{B} 55'09	3.98646 AU	max. Earth dist.	1685 Oct 23 21:01	2° \mathcal{M} 32'46	6.42545 AU
opposition	1679 Oct 29 01:03	5° \mathcal{B} 44'19	-1°-26'-51				
direct	1679 Dec 25 23:23	0° \mathcal{B} 48'32		conjunction	1685 Oct 25 17:20	2° \mathcal{M} 57'02	1°00'20
	1680 Apr 06 22:10	15° \mathcal{B}		minimum elong	1685 Oct 25 17:22	2° \mathcal{M} 57'02	1°00'20
evening set	1680 Apr 29 22:43	20° \mathcal{B} 17'35		morning rise	1685 Nov 07 09:28	5° \mathcal{M} 43'13	
					1685 Dec 22 22:33	15° \mathcal{M}	
conjunction	1680 May 13 14:35	23° \mathcal{B} 30'30	0°-45'-30	retrograde	1686 Mar 08 07:39	22° \mathcal{M} 43'42	
minimum elong	1680 May 13 14:38	23° \mathcal{B} 30'31	0°45'31	opposition	1686 May 08 05:01	17° \mathcal{M} 51'51	1°13'58
max. Earth dist.	1680 May 15 21:48	24° \mathcal{B} 03'00	6.03183 AU	min. Earth dist.	1686 May 09 16:36	17° \mathcal{M} 40'32	4.38583 AU
morning rise	1680 May 27 08:41	26° \mathcal{B} 44'20			1686 Jun 01 04:31	15° \mathcal{R} \mathcal{M}	
	1680 Jun 10 11:53	0° \mathcal{I}		direct	1686 Jul 09 20:16	12° \mathcal{M} 51'32	
retrograde	1680 Oct 04 01:27	16° \mathcal{I} 30'29			1686 Aug 17 07:45	15° \mathcal{M}	
min. Earth dist.	1680 Dec 01 04:39	11° \mathcal{I} 37'20	4.09286 AU		1686 Nov 09 12:51	0° \mathcal{J}	
opposition	1680 Dec 02 15:10	11° \mathcal{I} 25'34	0°-42'-40	evening set	1686 Nov 12 15:10	0° \mathcal{J} 41'11	
direct	1681 Jan 30 03:54	6° \mathcal{I} 26'49		max. Earth dist.	1686 Nov 23 03:57	3° \mathcal{J} 02'24	6.33038 AU
evening set	1681 Jun 05 16:16	25° \mathcal{I} 23'01					
				conjunction	1686 Nov 25 07:04	3° \mathcal{J} 31'03	0°37'08
conjunction	1681 Jun 19 10:27	28° \mathcal{I} 31'05	0°-9'-58	minimum elong	1686 Nov 25 07:06	3° \mathcal{J} 31'04	0°37'08
minimum elong	1681 Jun 19 10:27	28° \mathcal{I} 31'05	0°09'59	morning rise	1686 Dec 07 21:45	6° \mathcal{J} 20'30	
behind sun begin	1681 Jun 19 03:46	28° \mathcal{I} 27'17		retrograde	1687 Apr 10 04:09	24° \mathcal{J} 04'14	
behind sun end	1681 Jun 19 17:09	28° \mathcal{I} 34'53		opposition	1687 Jun 10 02:51	19° \mathcal{J} 11'44	0°30'23
max. Earth dist.	1681 Jun 21 09:40	28° \mathcal{I} 58'01	6.16235 AU	min. Earth dist.	1687 Jun 11 13:32	19° \mathcal{J} 00'40	4.26455 AU
	1681 Jun 25 22:28	0° \mathcal{S}		direct	1687 Aug 10 22:12	14° \mathcal{J} 13'41	
morning rise	1681 Jul 03 05:07	1° \mathcal{S} 39'03			1687 Dec 02 22:23	0° \mathcal{Z}	
asc. node	1681 Sep 30 00:44	18° \mathcal{S} 05'49		evening set	1687 Dec 14 07:06	2° \mathcal{Z} 34'51	
retrograde	1681 Nov 06 09:34	20° \mathcal{S} 17'03		max. Earth dist.	1687 Dec 25 06:19	5° \mathcal{Z} 06'35	6.19287 AU
min. Earth dist.	1682 Jan 04 01:46	15° \mathcal{S} 22'31	4.23356 AU				
opposition	1682 Jan 05 01:41	15° \mathcal{S} 14'26	0°13'42	conjunction	1687 Dec 26 23:34	5° \mathcal{Z} 30'27	0°02'04
direct	1682 Mar 05 21:11	10° \mathcal{S} 13'06		minimum elong	1687 Dec 26 23:35	5° \mathcal{Z} 30'27	0°02'03
evening set	1682 Jul 10 16:31	28° \mathcal{S} 32'02		behind sun begin	1687 Dec 26 15:36	5° \mathcal{Z} 25'51	
	1682 Jul 17 08:02	0° \mathcal{Q}		behind sun end	1687 Dec 27 07:34	5° \mathcal{Z} 35'03	
conjunction	1682 Jul 24 07:22	1° \mathcal{Q} 32'35	0°27'26	morning rise	1688 Jan 08 15:56	8° \mathcal{Z} 26'20	
minimum elong	1682 Jul 24 07:20	1° \mathcal{Q} 32'34	0°27'26	desc. node	1688 Jan 16 21:17	10° \mathcal{Z} 19'11	
max. Earth dist.	1682 Jul 25 09:35	1° \mathcal{Q} 47'06	6.30238 AU	retrograde	1688 May 14 08:46	27° \mathcal{Z} 13'56	
morning rise	1682 Aug 06 20:34	4° \mathcal{Q} 32'08		opposition	1688 Jul 14 02:12	22° \mathcal{Z} 19'22	0°-25'-40
	1682 Sep 27 08:39	15° \mathcal{Q}		min. Earth dist.	1688 Jul 15 01:20	22° \mathcal{Z} 11'54	4.11991 AU
retrograde	1682 Dec 07 18:03	22° \mathcal{Q} 08'35		direct	1688 Sep 12 13:41	17° \mathcal{Z} 23'51	
opposition	1683 Feb 05 17:21	17° \mathcal{Q} 09'41	1°02'24		1688 Dec 18 19:37	0° \approx	
min. Earth dist.	1683 Feb 05 08:49	17° \mathcal{Q} 12'31	4.36171 AU	evening set	1689 Jan 15 17:52	6° \approx 24'02	
	1683 Feb 22 14:48	15° \mathcal{R} \mathcal{Q}					
direct	1683 Apr 07 19:53	12° \mathcal{Q} 07'01		conjunction	1689 Jan 28 13:31	9° \approx 26'54	0°-35'-20
	1683 May 22 11:52	15° \mathcal{Q}		minimum elong	1689 Jan 28 13:29	9° \approx 26'53	0°35'21
evening set	1683 Aug 12 18:29	29° \mathcal{Q} 55'56		max. Earth dist.	1689 Jan 27 17:42	9° \approx 15'06	6.05393 AU
	1683 Aug 13 02:02	0° \mathcal{P}		morning rise	1689 Feb 10 10:57	12° \approx 30'54	
conjunction	1683 Aug 26 02:04	2° \mathcal{P} 49'07	0°55'06		1689 Feb 21 00:44	15° \approx	
minimum elong	1683 Aug 26 02:02	2° \mathcal{P} 49'06	0°55'05	retrograde	1689 May 11 18:37	0° \mathcal{H}	
max. Earth dist.	1683 Aug 25 23:12	2° \mathcal{P} 47'33	6.40898 AU		1689 Jun 20 15:42	2° \mathcal{H} 26'27	
morning rise	1683 Sep 08 07:11	5° \mathcal{P} 40'56		opposition	1689 Jul 30 19:21	30° \mathcal{R} \approx	
retrograde	1684 Jan 07 02:01	22° \mathcal{P} 37'44		min. Earth dist.	1689 Aug 20 00:01	27° \approx 28'21	-1°-16'-13
opposition	1684 Mar 07 08:45	17° \mathcal{P} 42'23	1°31'23	direct	1689 Aug 20 01:28	27° \approx 27'53	3.99946 AU
min. Earth dist.	1684 Mar 07 19:22	17° \mathcal{P} 38'56	4.44069 AU		1689 Oct 18 00:00	22° \approx 34'34	
direct	1684 May 08 14:15	12° \mathcal{P} 39'31		evening set	1689 Dec 27 11:03	0° \mathcal{H}	
	1684 Sep 11 08:15	0° \mathcal{A}			1690 Feb 20 07:22	12° \mathcal{H} 07'51	
evening set	1684 Sep 12 06:51	0° \mathcal{A} 12'07		conjunction	1690 Mar 05 09:25	15° \mathcal{H} 17'35	-1°-1'-12
max. Earth dist.	1684 Sep 24 03:27	2° \mathcal{A} 45'35	6.45373 AU	minimum elong	1690 Mar 05 09:24	15° \mathcal{H} 17'34	1°01'13
				max. Earth dist.	1690 Mar 05 23:22	15° \mathcal{H} 26'01	5.96312 AU
conjunction	1684 Sep 25 07:04	3° \mathcal{A} 00'31	1°06'45	morning rise	1690 Mar 18 14:09	18° \mathcal{H} 28'54	
minimum elong	1684 Sep 25 07:04	3° \mathcal{A} 00'31	1°06'45		1690 May 09 01:11	0° \mathcal{Y}	
morning rise	1684 Oct 08 04:21	5° \mathcal{A} 47'31		retrograde	1690 Jul 28 23:42	9° \mathcal{Y} 07'30	
				opposition	1690 Sep 26 20:16	4° \mathcal{Y} 05'30	-1°-39'-6

min. Earth dist.	1690 Sep 26 00:48	4° Υ 12'02	3.94950 AU	evening set	1696 Sep 16 15:41	4° Ω 34'12	
	1690 Nov 02 02:33	30° \mathbb{R}		max. Earth dist.	1696 Sep 28 07:56	7° Ω 05'22	6.45588 AU
direct	1690 Nov 23 21:27	29° \mathbb{H} 11'34					
	1690 Dec 15 14:07	0° Υ		conjunction	1696 Sep 29 14:50	7° Ω 22'05	1°06'55
evening set	1691 Mar 29 12:37	18° Υ 56'11		minimum elong	1696 Sep 29 14:50	7° Ω 22'05	1°06'56
				morning rise	1696 Oct 12 11:15	10° Ω 08'40	
conjunction	1691 Apr 11 22:38	22° Υ 09'50	-1°-3'-38	retrograde	1697 Feb 09 13:09	26° Ω 53'01	
minimum elong	1691 Apr 11 22:40	22° Υ 09'51	1°03'38	opposition	1697 Apr 11 05:35	22° Ω 00'23	1°33'54
max. Earth dist.	1691 Apr 13 17:41	22° Υ 35'45	5.95796 AU	min. Earth dist.	1697 Apr 12 09:56	21° Ω 51'18	4.44648 AU
morning rise	1691 Apr 25 11:48	25° Υ 25'04		direct	1697 Jun 13 01:05	16° Ω 58'29	
	1691 May 15 00:25	0° \mathbb{B}			1697 Sep 25 21:30	0° \mathbb{M}	
	1691 Aug 11 07:19	15° \mathbb{B}		evening set	1697 Oct 17 05:41	4° \mathbb{M} 32'06	
retrograde	1691 Sep 04 11:26	15° \mathbb{B} 57'03		max. Earth dist.	1697 Oct 28 00:44	6° \mathbb{M} 53'40	6.41689 AU
	1691 Sep 28 10:59	15° \mathbb{R} \mathbb{B}					
min. Earth dist.	1691 Nov 01 15:53	11° \mathbb{B} 03'50	3.99091 AU	conjunction	1697 Oct 29 23:44	7° \mathbb{M} 19'27	0°57'59
opposition	1691 Nov 03 01:38	10° \mathbb{B} 52'21	-1°-22'-20	minimum elong	1697 Oct 29 23:45	7° \mathbb{M} 19'27	0°57'59
direct	1691 Dec 30 22:50	5° \mathbb{B} 56'14		morning rise	1697 Nov 11 15:28	10° \mathbb{M} 05'49	
	1692 Mar 18 22:39	15° \mathbb{B}			1697 Dec 04 15:20	15° \mathbb{M}	
evening set	1692 May 05 03:09	25° \mathbb{B} 24'15		retrograde	1698 Mar 12 18:43	27° \mathbb{M} 10'27	
				opposition	1698 May 12 17:12	22° \mathbb{M} 18'33	1°08'59
conjunction	1692 May 18 19:45	28° \mathbb{B} 37'04	0°-41'-11	min. Earth dist.	1698 May 14 04:54	22° \mathbb{M} 07'11	4.37238 AU
minimum elong	1692 May 18 19:47	28° \mathbb{B} 37'06	0°41'12	direct	1698 Jul 14 06:01	17° \mathbb{M} 18'27	
max. Earth dist.	1692 May 21 02:33	29° \mathbb{B} 09'17	6.04135 AU		1698 Oct 24 02:09	0° \mathbb{J}	
	1692 May 24 16:58	0° \mathbb{I}		evening set	1698 Nov 16 23:57	5° \mathbb{J} 11'33	
morning rise	1692 Jun 01 14:28	1° \mathbb{I} 50'44		max. Earth dist.	1698 Nov 27 14:04	7° \mathbb{J} 34'03	6.31311 AU
retrograde	1692 Oct 08 21:44	21° \mathbb{I} 30'19					
min. Earth dist.	1692 Dec 06 01:30	16° \mathbb{I} 36'58	4.10618 AU	conjunction	1698 Nov 29 15:50	8° \mathbb{J} 02'04	0°32'43
opposition	1692 Dec 07 10:58	16° \mathbb{I} 25'33	0°-34'-58	minimum elong	1698 Nov 29 15:52	8° \mathbb{J} 02'05	0°32'43
direct	1693 Feb 04 03:42	11° \mathbb{I} 26'23		morning rise	1698 Dec 12 06:25	10° \mathbb{J} 52'13	
	1693 Jun 09 07:50	0° \mathbb{S}		retrograde	1699 Apr 14 23:32	28° \mathbb{J} 43'47	
evening set	1693 Jun 10 17:37	0° \mathbb{S} 19'04		opposition	1699 Jun 14 21:24	23° \mathbb{J} 51'07	0°22'55
				min. Earth dist.	1699 Jun 16 07:54	23° \mathbb{J} 40'06	4.24441 AU
conjunction	1693 Jun 24 11:53	3° \mathbb{S} 26'26	0°-4'-30	direct	1699 Aug 15 13:16	18° \mathbb{J} 53'23	
minimum elong	1693 Jun 24 11:53	3° \mathbb{S} 26'26	0°04'31		1699 Nov 15 16:36	0° \mathbb{Z}	
behind sun begin	1693 Jun 24 03:41	3° \mathbb{S} 21'48		desc. node	1699 Nov 26 08:38	2° \mathbb{Z} 16'06	
behind sun end	1693 Jun 24 20:05	3° \mathbb{S} 31'04		evening set	1699 Dec 18 21:01	7° \mathbb{Z} 19'59	
max. Earth dist.	1693 Jun 26 11:07	3° \mathbb{S} 53'16	6.17849 AU	max. Earth dist.	1699 Dec 29 21:06	9° \mathbb{Z} 52'59	6.17152 AU
morning rise	1693 Jul 08 06:03	6° \mathbb{S} 33'29					
asc. node	1693 Aug 09 09:18	13° \mathbb{S} 32'22		conjunction	1699 Dec 31 13:40	10° \mathbb{Z} 16'34	0°-3'-27
retrograde	1693 Nov 10 23:05	25° \mathbb{S} 03'04		minimum elong	1699 Dec 31 13:40	10° \mathbb{Z} 16'34	0°03'27
opposition	1694 Jan 09 15:54	20° \mathbb{S} 00'54	0°21'27	behind sun begin	1699 Dec 31 05:43	10° \mathbb{Z} 11'59	
min. Earth dist.	1694 Jan 08 16:42	20° \mathbb{S} 08'42	4.25085 AU	behind sun end	1699 Dec 31 21:36	10° \mathbb{Z} 21'10	
direct	1694 Mar 10 15:02	14° \mathbb{S} 59'18		morning rise	1700 Jan 13 06:44	13° \mathbb{Z} 13'37	
	1694 Jun 30 14:12	0° \mathbb{Q}			1700 Apr 12 12:46	0° \approx	
evening set	1694 Jul 15 12:11	3° \mathbb{Q} 13'51		retrograde	1700 May 20 11:45	2° \approx 11'25	
					1700 Jun 27 18:18	30° \mathbb{R} \mathbb{Z}	
conjunction	1694 Jul 29 01:59	6° \mathbb{Q} 13'17	0°32'09	opposition	1700 Jul 20 04:15	27° \mathbb{Z} 16'22	0°-33'-38
minimum elong	1694 Jul 29 01:57	6° \mathbb{Q} 13'16	0°32'10	min. Earth dist.	1700 Jul 21 00:18	27° \mathbb{Z} 09'52	4.09901 AU
max. Earth dist.	1694 Jul 29 23:46	6° \mathbb{Q} 25'18	6.31919 AU	direct	1700 Sep 18 09:52	22° \mathbb{Z} 21'07	
morning rise	1694 Aug 11 14:18	9° \mathbb{Q} 11'41			1700 Nov 30 05:37	0° \approx	
	1694 Sep 07 21:44	15° \mathbb{Q}		evening set	1701 Jan 21 15:02	11° \approx 27'16	
retrograde	1694 Dec 12 03:16	26° \mathbb{Q} 41'04					
opposition	1695 Feb 10 03:06	21° \mathbb{Q} 42'37	1°07'54	conjunction	1701 Feb 03 11:35	14° \approx 31'18	0°-40'-1
min. Earth dist.	1695 Feb 09 21:35	21° \mathbb{Q} 44'26	4.37660 AU	minimum elong	1701 Feb 03 11:33	14° \approx 31'16	0°40'02
direct	1695 Apr 12 11:04	16° \mathbb{Q} 39'45		max. Earth dist.	1701 Feb 02 21:14	14° \approx 22'43	6.03552 AU
	1695 Jul 27 09:10	0° \mathbb{P}			1701 Feb 05 11:34	15° \approx	
evening set	1695 Aug 17 07:49	4° \mathbb{P} 25'06		morning rise	1701 Feb 16 09:47	17° \approx 36'29	
					1701 Apr 14 05:55	0° \mathbb{H}	
conjunction	1695 Aug 30 14:26	7° \mathbb{P} 17'23	0°57'48	retrograde	1701 Jun 27 02:21	7° \mathbb{H} 41'01	
minimum elong	1695 Aug 30 14:24	7° \mathbb{P} 17'22	0°57'48	opposition	1701 Aug 26 07:55	2° \mathbb{H} 42'24	-1°-21'-37
max. Earth dist.	1695 Aug 30 09:22	7° \mathbb{P} 14'38	6.42046 AU	min. Earth dist.	1701 Aug 26 07:03	2° \mathbb{H} 42'42	3.98560 AU
morning rise	1695 Sep 12 18:11	10° \mathbb{P} 08'13			1701 Sep 17 01:59	30° \mathbb{R} \approx	
retrograde	1696 Jan 11 06:42	27° \mathbb{P} 01'01		direct	1701 Oct 24 04:05	27° \approx 48'46	
opposition	1696 Mar 11 16:03	22° \mathbb{P} 06'02	1°33'30		1701 Nov 29 17:18	0° \mathbb{H}	
min. Earth dist.	1696 Mar 12 04:04	22° \mathbb{P} 02'08	4.44794 AU	evening set	1702 Feb 26 12:10	17° \mathbb{H} 25'56	
direct	1696 May 12 23:26	17° \mathbb{P} 03'11					
	1696 Aug 25 21:01	0° Ω		conjunction	1702 Mar 11 15:13	20° \mathbb{H} 36'31	-1°-3'-9

minimum elong	1702 Mar 11 15:12	20° Υ 36'30	1°03'09	morning rise	1707 Sep 18 01:48	14° η 26'44	
max. Earth dist.	1702 Mar 12 09:13	20° Υ 47'25	5.95514 AU		1707 Dec 18 18:21	0° Ω	
morning rise	1702 Mar 24 21:19	23° Υ 48'46		retrograde	1708 Jan 16 11:41	1° Ω 16'31	
	1702 Apr 20 06:53	0° Υ			1708 Feb 14 03:01	30° κ η	
retrograde	1702 Aug 04 09:13	14° Υ 30'14		opposition	1708 Mar 16 21:09	26° η 21'57	1°35'03
min. Earth dist.	1702 Oct 02 05:35	9° Υ 35'35	3.94890 AU	min. Earth dist.	1708 Mar 17 12:48	26° η 16'53	4.45243 AU
opposition	1702 Oct 03 04:49	9° Υ 27'45	-1°-39'-8	direct	1708 May 18 07:46	21° η 19'09	
direct	1702 Nov 30 02:57	4° Υ 33'40			1708 Aug 09 04:47	0° Ω	
evening set	1703 Apr 04 21:17	24° Υ 17'50		evening set	1708 Sep 21 21:39	8° Ω 49'36	
				max. Earth dist.	1708 Oct 03 10:32	11° Ω 19'05	6.45391 AU
conjunction	1703 Apr 18 08:24	27° Υ 31'42	-1°-1'-48				
minimum elong	1703 Apr 18 08:26	27° Υ 31'43	1°01'48	conjunction	1708 Oct 04 20:07	11° Ω 37'17	1°06'44
max. Earth dist.	1703 Apr 20 06:24	27° Υ 59'19	5.96485 AU	minimum elong	1708 Oct 04 20:07	11° Ω 37'17	1°06'43
	1703 Apr 28 15:44	0° Υ		morning rise	1708 Oct 17 15:36	14° Ω 23'37	
morning rise	1703 May 01 22:37	0° Υ 47'02			1709 Jan 18 07:37	0° \mathcal{M}	
	1703 Jul 07 12:45	15° Υ		retrograde	1709 Feb 14 18:22	1° \mathcal{M} 09'37	
retrograde	1703 Sep 10 15:26	21° Υ 13'45			1709 Mar 14 07:24	30° κ Ω	
min. Earth dist.	1703 Nov 07 19:09	16° Υ 20'33	4.00448 AU	opposition	1709 Apr 16 12:26	26° Ω 17'12	1°31'53
opposition	1703 Nov 09 05:35	16° Υ 08'48	-1°-17'00	min. Earth dist.	1709 Apr 17 17:49	26° Ω 07'48	4.43832 AU
	1703 Nov 17 17:24	15° κ Υ		direct	1709 Jun 18 06:29	21° Ω 15'31	
direct	1704 Jan 06 05:04	11° Υ 12'16			1709 Sep 09 05:13	0° \mathcal{M}	
	1704 Feb 24 01:06	15° Υ		evening set	1709 Oct 22 11:40	8° \mathcal{M} 51'47	
	1704 May 08 20:47	0° Π		max. Earth dist.	1709 Nov 02 04:47	11° \mathcal{M} 12'48	6.40310 AU
evening set	1704 May 11 09:41	0° Π 35'23					
conjunction	1704 May 25 02:59	3° Π 47'37	0°-36'-30	conjunction	1709 Nov 04 05:13	11° \mathcal{M} 39'29	0°55'21
minimum elong	1704 May 25 03:01	3° Π 47'38	0°36'30	minimum elong	1709 Nov 04 05:15	11° \mathcal{M} 39'29	0°55'22
max. Earth dist.	1704 May 27 11:52	4° Π 20'52	6.06047 AU	morning rise	1709 Nov 16 20:40	14° \mathcal{M} 26'17	
morning rise	1704 Jun 07 21:52	7° Π 00'27			1709 Nov 19 10:22	15° \mathcal{M}	
retrograde	1704 Oct 14 17:35	26° Π 29'32		retrograde	1710 Feb 13 16:07	0° \mathcal{J}	
min. Earth dist.	1704 Dec 11 21:50	21° Π 36'14	4.12862 AU		1710 Mar 18 08:34	1° \mathcal{J} 37'03	
opposition	1704 Dec 13 06:51	21° Π 25'00	0°-27'-2	opposition	1710 Apr 20 04:27	30° κ \mathcal{M}	
direct	1705 Feb 10 03:27	16° Π 25'27		min. Earth dist.	1710 May 18 05:45	26° \mathcal{M} 45'14	1°03'40
	1705 May 24 04:19	0° \mathfrak{S}		direct	1710 May 19 19:01	26° \mathcal{M} 33'22	4.35363 AU
evening set	1705 Jun 16 18:00	5° \mathfrak{S} 11'24			1710 Jul 19 16:54	21° \mathcal{M} 45'26	
asc. node	1705 Jun 20 03:11	5° \mathfrak{S} 57'06		evening set	1710 Oct 06 18:15	0° \mathcal{J}	
				max. Earth dist.	1710 Nov 22 09:16	9° \mathcal{J} 43'51	
conjunction	1705 Jun 30 11:43	8° \mathfrak{S} 17'30	0°01'02		1710 Dec 02 22:47	12° \mathcal{J} 06'46	6.29090 AU
minimum elong	1705 Jun 30 11:43	8° \mathfrak{S} 17'30	0°01'02	conjunction	1710 Dec 05 01:10	12° \mathcal{J} 35'16	0°28'07
behind sun begin	1705 Jun 30 03:21	8° \mathfrak{S} 12'48		minimum elong	1710 Dec 05 01:11	12° \mathcal{J} 35'17	0°28'06
behind sun end	1705 Jun 30 20:05	8° \mathfrak{S} 22'12		morning rise	1710 Dec 17 16:04	15° \mathcal{J} 26'27	
max. Earth dist.	1705 Jul 02 07:03	8° \mathfrak{S} 41'59	6.20219 AU		1711 Mar 03 08:54	0° \mathfrak{Z}	
morning rise	1705 Jul 14 05:26	11° \mathfrak{S} 23'15		retrograde	1711 Apr 20 20:29	3° \mathfrak{Z} 27'54	
retrograde	1705 Nov 16 09:33	29° \mathfrak{S} 42'14			1711 Jun 09 12:09	30° κ \mathcal{J}	
min. Earth dist.	1706 Jan 14 07:06	24° \mathfrak{S} 47'27	4.27360 AU	opposition	1711 Jun 20 17:57	28° \mathcal{J} 34'59	0°15'13
opposition	1706 Jan 15 03:48	24° \mathfrak{S} 40'30	0°28'51	min. Earth dist.	1711 Jun 22 02:14	28° \mathcal{J} 24'39	4.22025 AU
direct	1706 Mar 16 08:24	19° \mathfrak{S} 38'35		direct	1711 Aug 21 03:49	23° \mathcal{J} 37'39	
	1706 Jun 13 22:59	0° Ω		desc. node	1711 Oct 06 18:20	26° \mathcal{J} 51'07	
evening set	1706 Jul 21 04:33	7° Ω 47'15			1711 Oct 27 07:27	0° \mathfrak{Z}	
conjunction	1706 Aug 03 17:35	10° Ω 45'28	0°36'33	evening set	1711 Dec 24 13:01	12° \mathfrak{Z} 11'08	
minimum elong	1706 Aug 03 17:33	10° Ω 45'27	0°36'32	max. Earth dist.	1712 Jan 04 17:57	14° \mathfrak{Z} 47'45	6.14763 AU
max. Earth dist.	1706 Aug 04 12:35	10° Ω 55'55	6.33929 AU	conjunction	1712 Jan 06 06:11	15° \mathfrak{Z} 08'56	0°-8'-53
morning rise	1706 Aug 17 04:33	13° Ω 42'31		minimum elong	1712 Jan 06 06:10	15° \mathfrak{Z} 08'55	0°08'54
	1706 Aug 23 03:20	15° Ω		behind sun begin	1712 Jan 05 23:16	15° \mathfrak{Z} 04'54	
	1706 Nov 21 06:12	0° η		behind sun end	1712 Jan 06 13:05	15° \mathfrak{Z} 12'56	
retrograde	1706 Dec 17 08:20	1° η 04'24		morning rise	1712 Jan 18 23:44	18° \mathfrak{Z} 07'14	
	1707 Jan 12 06:52	30° κ Ω			1712 Mar 14 17:39	0° \approx	
opposition	1707 Feb 15 09:43	26° Ω 06'30	1°12'48	retrograde	1712 May 25 19:14	7° \approx 16'13	
min. Earth dist.	1707 Feb 15 06:28	26° Ω 07'34	4.39259 AU	opposition	1712 Jul 25 09:11	2° \approx 20'47	0°-41'-31
direct	1707 Apr 17 21:17	21° Ω 03'36		min. Earth dist.	1712 Jul 26 03:07	2° \approx 14'58	4.07749 AU
	1707 Jul 10 13:40	0° η			1712 Aug 13 05:31	30° κ \mathfrak{Z}	
evening set	1707 Aug 22 17:38	8° η 45'20		direct	1712 Sep 23 10:12	27° \mathfrak{Z} 25'55	
conjunction	1707 Sep 04 23:00	11° η 36'44	1°00'06		1712 Nov 02 19:42	0° \approx	
minimum elong	1707 Sep 04 22:58	11° η 36'43	1°00'06	evening set	1713 Jan 19 17:43	15° \approx	
max. Earth dist.	1707 Sep 04 12:11	11° η 30'53	6.43094 AU		1713 Jan 26 15:22	16° \approx 38'10	

conjunction	1713 Feb 08 12:38	19° 44 43'17	0°-44'-27	max. Earth dist.	1718 Aug 08 21:49	15° 02 24'03	6.35604 AU
minimum elong	1713 Feb 08 12:35	19° 44 43'16	0°44'28	morning rise	1718 Aug 21 18:05	18° 02 12'27	
max. Earth dist.	1713 Feb 08 02:22	19° 44 37'08	6.01837 AU		1718 Oct 20 20:49	0° 00	
morning rise	1713 Feb 21 11:58	22° 44 49'43		retrograde	1718 Dec 21 13:54	5° 00 28'09	
	1713 Mar 24 14:14	0° 00		opposition	1719 Feb 19 16:30	0° 00 30'43	1°17'21
retrograde	1713 Jul 02 12:49	13° 00 02'15		min. Earth dist.	1719 Feb 19 16:16	0° 00 30'48	4.40490 AU
opposition	1713 Aug 31 17:45	8° 00 03'04	-1°-26'-22		1719 Feb 23 14:01	30° 00 34'02	
min. Earth dist.	1713 Aug 31 12:06	8° 00 04'56	3.97499 AU	direct	1719 Apr 22 07:49	25° 00 27'42	
direct	1713 Oct 29 08:57	3° 00 09'31			1719 Jun 18 16:12	0° 00	
evening set	1714 Mar 03 19:00	22° 00 49'11		evening set	1719 Aug 27 03:44	13° 00 07'01	
conjunction	1714 Mar 16 23:08	26° 00 00'24	-1°-4'-34	conjunction	1719 Sep 09 08:12	15° 00 57'43	1°02'05
minimum elong	1714 Mar 16 23:07	26° 00 00'23	1°04'35	minimum elong	1719 Sep 09 08:11	15° 00 57'42	1°02'05
max. Earth dist.	1714 Mar 17 22:19	26° 00 14'27	5.95187 AU	max. Earth dist.	1719 Sep 08 18:42	15° 00 50'25	6.43791 AU
morning rise	1714 Mar 30 06:21	29° 00 13'18		morning rise	1719 Sep 22 09:42	18° 00 46'59	
	1714 Apr 02 12:13	0° 00			1719 Nov 18 23:12	0° 00	
retrograde	1714 Aug 09 18:42	19° 00 55'18		retrograde	1720 Jan 20 16:08	5° 00 34'44	
opposition	1714 Oct 08 13:47	14° 00 52'15	-1°-38'-17	opposition	1720 Mar 21 03:10	0° 00 40'34	1°36'09
min. Earth dist.	1714 Oct 07 12:21	15° 00 00'51	3.95330 AU	min. Earth dist.	1720 Mar 21 20:45	0° 00 34'53	4.45388 AU
direct	1714 Dec 05 11:38	9° 00 57'52			1720 Mar 26 09:06	30° 00 34'53	
evening set	1715 Apr 10 05:53	29° 00 39'36		direct	1720 May 22 14:52	25° 00 37'52	
	1715 Apr 11 16:07	0° 00			1720 Jul 18 05:59	0° 00	
conjunction	1715 Apr 23 18:08	2° 00 53'24	0°-59'-27	evening set	1720 Sep 26 05:04	13° 00 08'34	
minimum elong	1715 Apr 23 18:10	2° 00 53'26	0°59'28	max. Earth dist.	1720 Oct 07 12:51	15° 00 35'35	6.44957 AU
max. Earth dist.	1715 Apr 25 20:21	3° 00 23'28	5.97628 AU	conjunction	1720 Oct 09 02:34	15° 00 56'03	1°06'11
morning rise	1715 May 07 09:08	6° 00 08'34		minimum elong	1720 Oct 09 02:34	15° 00 56'03	1°06'11
	1715 Jun 15 11:27	15° 00		morning rise	1720 Oct 21 21:29	18° 00 42'19	
retrograde	1715 Sep 15 18:35	26° 00 27'57			1720 Dec 18 17:24	0° 00	
min. Earth dist.	1715 Nov 12 20:57	21° 00 34'49	4.02153 AU	retrograde	1721 Feb 19 04:16	5° 00 30'36	
opposition	1715 Nov 14 07:58	21° 00 22'53	-1°-11'-5	opposition	1721 Apr 20 21:33	0° 00 38'22	1°29'20
direct	1716 Jan 11 09:43	16° 00 25'56		min. Earth dist.	1721 Apr 22 05:28	0° 00 28'10	4.42853 AU
	1716 Apr 21 08:28	0° 00			1721 Apr 25 21:50	30° 00 34'53	
evening set	1716 May 16 15:11	5° 00 43'19		direct	1721 Jun 22 16:08	25° 00 36'52	
conjunction	1716 May 30 08:41	8° 00 54'43	0°-31'-35	evening set	1721 Aug 18 04:57	0° 00	
minimum elong	1716 May 30 08:43	8° 00 54'44	0°31'36		1721 Oct 26 19:10	13° 00 15'57	
max. Earth dist.	1716 Jun 01 15:37	9° 00 26'39	6.08132 AU	max. Earth dist.	1721 Nov 03 16:26	15° 00	
morning rise	1716 Jun 13 03:52	12° 00 06'39			1721 Nov 06 11:17	15° 00 36'54	6.38860 AU
	1716 Sep 19 17:08	0° 00		conjunction	1721 Nov 08 12:29	16° 00 04'05	0°52'21
retrograde	1716 Oct 19 09:55	1° 00 24'58		minimum elong	1721 Nov 08 12:31	16° 00 04'06	0°52'21
	1716 Nov 17 20:50	30° 00 34'53		morning rise	1721 Nov 21 03:37	18° 00 51'23	
min. Earth dist.	1716 Dec 16 16:45	26° 00 31'31	4.15107 AU		1722 Jan 15 17:36	0° 00	
opposition	1716 Dec 18 00:38	26° 00 20'40	0°-19'00	retrograde	1722 Mar 22 22:16	6° 00 20'82	
direct	1717 Feb 15 01:37	21° 00 20'41		opposition	1722 May 22 20:29	1° 00 21'63	0°57'49
asc. node	1717 Apr 29 17:12	28° 00 59'24		min. Earth dist.	1722 May 24 08:47	1° 00 20'45	4.33543 AU
	1717 May 05 03:48	0° 00			1722 Jun 01 23:35	30° 00 34'53	
evening set	1717 Jun 21 16:40	10° 00 00'21		direct	1722 Jul 24 03:29	26° 00 17'08	
conjunction	1717 Jul 05 10:06	13° 00 05'20	0°06'27		1722 Sep 13 05:52	0° 00	
minimum elong	1717 Jul 05 10:05	13° 00 05'19	0°06'28	evening set	1722 Nov 26 20:35	14° 00 27'28	
behind sun begin	1717 Jul 05 02:16	13° 00 00'57		max. Earth dist.	1722 Dec 07 11:59	16° 00 27'45	6.27062 AU
behind sun end	1717 Jul 05 17:54	13° 00 09'42		conjunction	1722 Dec 09 12:28	17° 00 27'42	0°23'15
max. Earth dist.	1717 Jul 07 02:57	13° 00 28'19	6.22456 AU	minimum elong	1722 Dec 09 12:29	17° 00 27'43	0°23'15
morning rise	1717 Jul 19 02:57	16° 00 09'45		morning rise	1722 Dec 22 03:33	20° 00 27'04	
	1717 Sep 27 23:22	0° 00			1723 Feb 07 01:01	0° 00	
retrograde	1717 Nov 20 20:21	4° 00 19'02		retrograde	1723 Apr 25 20:45	8° 00 35'21	
	1718 Jan 14 08:24	30° 00 34'53		opposition	1723 Jun 25 16:13	3° 00 22'14	0°07'16
opposition	1718 Jan 19 14:43	29° 00 21'75	0°36'02	min. Earth dist.	1723 Jun 26 23:43	3° 00 22'08	4.19933 AU
min. Earth dist.	1718 Jan 18 20:40	29° 00 23'53	4.29399 AU		1723 Jul 24 15:47	30° 00 34'53	
direct	1718 Mar 21 00:04	24° 00 15'43		desc. node	1723 Aug 15 20:35	28° 00 27'56	
	1718 May 24 02:55	0° 00		direct	1723 Aug 25 22:46	28° 00 27'59	
evening set	1718 Jul 25 20:10	12° 00 19'26			1723 Sep 26 23:12	0° 00	
	1718 Aug 07 01:55	15° 00		evening set	1723 Dec 29 06:16	17° 00 20'42	
conjunction	1718 Aug 08 08:06	15° 00 16'32	0°40'43	conjunction	1724 Jan 10 23:51	20° 00 20'09	0°-14'-19
minimum elong	1718 Aug 08 08:03	15° 00 16'31	0°40'43	minimum elong	1724 Jan 10 23:50	20° 00 20'09	0°14'20

behind sun begin	1724 Jan 10 19:54	20°  00'51		max. Earth dist.	1729 Jul 11 17:50	18°  05'26	6.24336 AU
behind sun end	1724 Jan 11 03:45	20°  05'26		morning rise	1729 Jul 23 21:01	20°  48'01	
max. Earth dist.	1724 Jan 09 14:24	19°  43'32	6.12811 AU		1729 Sep 05 19:17	0° 	
morning rise	1724 Jan 23 18:06	23°  02'35		retrograde	1729 Nov 25 02:51	8°  49'19	
	1724 Feb 23 14:01	0° 		opposition	1730 Jan 23 22:59	3°  48'40	0°42'48
retrograde	1724 May 30 23:54	12°  20'54		min. Earth dist.	1730 Jan 23 06:54	3°  54'03	4.31014 AU
opposition	1724 Jul 30 14:05	7°  24'59	0°-49'-6		1730 Feb 25 13:36	30°  R 	
min. Earth dist.	1724 Jul 31 03:47	7°  20'32	4.06135 AU	direct	1730 Mar 25 11:40	28°  46'23	
direct	1724 Sep 28 09:10	2°  30'27			1730 Apr 22 19:56	0° 	
	1725 Jan 02 07:10	15° 			1730 Jul 22 03:39	15° 	
evening set	1725 Jan 31 15:14	21°  46'47		evening set	1730 Jul 30 09:38	16°  46'49	
conjunction	1725 Feb 13 13:13	24°  52'44	0°-48'-31	conjunction	1730 Aug 12 20:41	19°  43'02	0°44'33
minimum elong	1725 Feb 13 13:11	24°  52'43	0°48'31	minimum elong	1730 Aug 12 20:38	19°  43'01	0°44'33
max. Earth dist.	1725 Feb 13 08:17	24°  49'46	6.00709 AU	max. Earth dist.	1730 Aug 13 06:31	19°  48'24	6.36853 AU
morning rise	1725 Feb 26 13:27	28°  00'03		morning rise	1730 Aug 26 05:29	22°  43'59	
	1725 Mar 06 23:36	0° 			1730 Sep 30 16:23	0° 	
retrograde	1725 Jul 07 22:28	18°  18'10		retrograde	1730 Dec 25 19:30	9°  49'10	
opposition	1725 Sep 06 01:33	13°  18'23	-1°-30'-19	opposition	1731 Feb 23 22:19	4°  52'19	1°21'22
min. Earth dist.	1725 Sep 05 17:07	13°  21'11	3.96985 AU	min. Earth dist.	1731 Feb 24 00:57	4°  51'27	4.41310 AU
direct	1725 Nov 03 14:33	8°  24'50			1731 Apr 15 23:14	30°  R 	
evening set	1726 Mar 08 23:30	28°  05'04		direct	1731 Apr 26 16:55	29°  49'22	
	1726 Mar 16 21:58	0° 			1731 May 07 12:16	0° 	
				evening set	1731 Aug 31 12:54	17°  49'27	
conjunction	1726 Mar 22 04:46	1°  16'43	-1°-5'-25	conjunction	1731 Sep 13 16:19	20°  47'39	1°03'41
minimum elong	1726 Mar 22 04:45	1°  16'43	1°05'25	minimum elong	1731 Sep 13 16:17	20°  47'38	1°03'41
max. Earth dist.	1726 Mar 23 09:26	1°  34'04	5.95330 AU	max. Earth dist.	1731 Sep 12 22:05	20°  47'47	6.44115 AU
morning rise	1726 Apr 04 12:59	4°  30'00		morning rise	1731 Sep 26 16:57	23°  47'06	
retrograde	1726 Aug 15 00:31	25°  10'19			1731 Oct 30 01:58	0° 	
opposition	1726 Oct 13 18:33	20°  06'54	-1°-36'-36	retrograde	1732 Jan 24 22:25	9°  45'30	
min. Earth dist.	1726 Oct 12 15:12	20°  16'09	3.96135 AU	opposition	1732 Mar 25 09:40	4°  45'41	1°36'41
direct	1726 Dec 10 15:20	15°  12'17		min. Earth dist.	1732 Mar 26 05:33	4°  45'15	4.45233 AU
	1727 Mar 25 16:27	0° 			1732 May 21 07:26	30°  R 	
evening set	1727 Apr 15 10:58	4°  50'42		direct	1732 May 26 22:51	29°  47'06	
					1732 Jun 01 15:00	0° 	
conjunction	1727 Apr 28 23:57	8°  04'15	0°-56'-42	evening set	1732 Sep 30 12:13	17°  45'43	
minimum elong	1727 Apr 28 23:59	8°  04'17	0°56'43	max. Earth dist.	1732 Oct 11 18:50	19°  45'21	6.44341 AU
max. Earth dist.	1727 May 01 02:24	8°  34'20	5.98982 AU				
morning rise	1727 May 12 15:55	11°  41'09		conjunction	1732 Oct 13 09:09	20°  45'11	1°05'14
	1727 May 28 10:38	15° 		minimum elong	1732 Oct 13 09:10	20°  45'12	1°05'14
	1727 Aug 20 23:39	0° 		morning rise	1732 Oct 26 03:13	23°  45'02	
retrograde	1727 Sep 20 15:25	1°  30'39			1732 Nov 28 15:28	0° 	
	1727 Oct 21 01:30	30°  R 		retrograde	1733 Feb 23 12:28	9°  45'33	
min. Earth dist.	1727 Nov 17 18:11	26°  37'40	4.03896 AU	opposition	1733 Apr 25 07:13	5°  45'01	1°26'15
opposition	1727 Nov 19 05:40	26°  35'34	-1°-4'-50	min. Earth dist.	1733 Apr 26 15:29	4°  45'08	4.41824 AU
direct	1728 Jan 16 09:51	21°  38'11		direct	1733 Jun 27 00:25	0° 	
	1728 Apr 02 07:29	0° 			1733 Oct 18 16:44	15° 	
evening set	1728 May 21 16:12	10°  40'09		evening set	1733 Oct 31 03:08	17°  42'01	
				max. Earth dist.	1733 Nov 10 17:43	20°  42'40	6.37489 AU
conjunction	1728 Jun 04 10:08	13°  50'50	0°-26'-36	conjunction	1733 Nov 12 19:55	20°  42'30	0°49'01
minimum elong	1728 Jun 04 10:10	13°  50'51	0°26'37	minimum elong	1733 Nov 12 19:57	20°  42'32	0°49'01
max. Earth dist.	1728 Jun 06 16:03	14°  52'03	6.10120 AU	morning rise	1733 Nov 25 10:58	23°  42'18	
morning rise	1728 Jun 18 05:13	17°  50'15			1733 Dec 26 22:16	0° 	
	1728 Aug 19 20:35	0° 		retrograde	1734 Mar 27 14:22	10°  41'19	
retrograde	1728 Oct 24 00:56	6°  51'02		opposition	1734 May 27 11:45	5°  41'19	0°51'35
min. Earth dist.	1728 Dec 21 09:20	1°  51'30	4.17121 AU	min. Earth dist.	1734 May 29 00:30	5°  41'35	4.31893 AU
opposition	1728 Dec 22 14:50	1°  50'63	0°-11'-8	direct	1734 Jul 28 17:07	0° 	
	1728 Dec 30 20:34	30°  R 		evening set	1734 Dec 01 07:22	18°  41'57	
direct	1729 Feb 19 20:16	26°  50'12		max. Earth dist.	1734 Dec 12 00:32	21°  41'45	6.25262 AU
asc. node	1729 Mar 10 13:23	26°  50'28					
	1729 Apr 11 16:38	0° 		conjunction	1734 Dec 13 23:24	21°  41'50	0°18'14
evening set	1729 Jun 26 11:54	14°  40'44		minimum elong	1734 Dec 13 23:25	21°  41'50	0°18'15
				morning rise	1734 Dec 26 14:41	24°  41'26	
conjunction	1729 Jul 10 04:48	17°  44'42	0°11'38		1735 Jan 19 09:32	0° 	
minimum elong	1729 Jul 10 04:47	17°  44'41	0°11'38	retrograde	1735 Apr 30 17:17	13°  44'02	
behind sun begin	1729 Jul 09 22:58	17°  44'12					
behind sun end	1729 Jul 10 10:35	17°  44'55					

desc. node	1735 Jun 25 11:48	8°♄47'48		asc. node	1741 Jan 18 04:36	3°♅08'08	
opposition	1735 Jun 30 13:52	8°♄08'45	0°00'-42	direct	1741 Feb 24 14:28	0°♅54'52	
min. Earth dist.	1735 Jul 01 18:40	7°♄59'30	4.18094 AU	evening set	1741 Jul 01 09:06	19°♅25'08	
direct	1735 Aug 30 15:22	3°♄12'11					
evening set	1736 Jan 02 22:30	21°♄55'50		conjunction	1741 Jul 15 01:25	22°♅28'07	0°16'50
max. Earth dist.	1736 Jan 14 10:15	24°♄37'45	6.11075 AU	minimum elong	1741 Jul 15 01:24	22°♅28'06	0°16'50
				max. Earth dist.	1741 Jul 16 10:35	22°♅46'38	6.26050 AU
conjunction	1736 Jan 15 16:23	24°♄55'30	0°-19'-37	morning rise	1741 Jul 28 16:51	25°♅30'22	
minimum elong	1736 Jan 15 16:22	24°♄55'29	0°19'39		1741 Aug 18 09:44	0°♄	
morning rise	1736 Jan 28 11:16	27°♄55'56		retrograde	1741 Nov 29 13:45	13°♄24'11	
	1736 Feb 06 08:36	0°♄		opposition	1742 Jan 28 09:42	8°♄24'05	0°49'27
	1736 Apr 26 16:09	15°♄		min. Earth dist.	1742 Jan 27 20:36	8°♄28'28	4.32562 AU
retrograde	1736 Jun 05 05:06	17°♄22'54		direct	1742 Mar 30 03:28	3°♄21'42	
	1736 Jul 15 00:57	15°♄			1742 Jul 04 22:59	15°♄	
opposition	1736 Aug 04 17:31	12°♄26'27	0°-56'-17	evening set	1742 Aug 04 01:00	21°♄18'44	
min. Earth dist.	1736 Aug 05 04:58	12°♄22'43	4.04640 AU				
direct	1736 Oct 03 09:28	7°♄32'04		conjunction	1742 Aug 17 11:04	24°♄14'02	0°48'14
	1736 Dec 13 14:07	15°♄		minimum elong	1742 Aug 17 11:01	24°♄14'00	0°48'14
evening set	1737 Feb 05 13:47	26°♄52'15		max. Earth dist.	1742 Aug 17 17:50	24°♄17'43	6.38135 AU
				morning rise	1742 Aug 30 18:43	27°♄08'00	
conjunction	1737 Feb 18 12:42	29°♄59'04	0°-52'-11		1742 Sep 13 04:03	0°♄	
minimum elong	1737 Feb 18 12:40	29°♄59'03	0°52'13	retrograde	1742 Dec 30 01:23	14°♄14'28	
	1737 Feb 18 14:15	0°♄		opposition	1743 Feb 28 06:18	9°♄18'05	1°25'03
max. Earth dist.	1737 Feb 18 12:38	29°♄59'01	5.99593 AU	min. Earth dist.	1743 Feb 28 10:21	9°♄16'46	4.42298 AU
morning rise	1737 Mar 03 13:51	3°♄07'18		direct	1743 May 01 03:29	4°♄15'12	
retrograde	1737 Jul 13 05:46	23°♄30'46		evening set	1743 Sep 04 23:35	21°♄51'12	
opposition	1737 Sep 11 07:25	18°♄30'26	-1°-33'-33	max. Earth dist.	1743 Sep 17 05:54	24°♄29'53	6.44764 AU
min. Earth dist.	1737 Sep 10 20:10	18°♄34'10	3.96396 AU				
direct	1737 Nov 08 16:31	13°♄36'51		conjunction	1743 Sep 18 01:56	24°♄40'43	1°05'01
	1738 Feb 28 05:48	0°♄		minimum elong	1743 Sep 18 01:55	24°♄40'43	1°05'00
evening set	1738 Mar 14 03:12	3°♄18'16		morning rise	1743 Oct 01 01:24	27°♄28'49	
					1743 Oct 12 21:39	0°♄	
conjunction	1738 Mar 27 09:24	6°♄30'24	-1°-5'-45	retrograde	1744 Jan 29 04:38	14°♄14'02	
minimum elong	1738 Mar 27 09:24	6°♄30'24	1°05'46	opposition	1744 Mar 29 17:18	9°♄20'34	1°36'45
max. Earth dist.	1738 Mar 28 16:21	6°♄49'07	5.95292 AU	min. Earth dist.	1744 Mar 30 14:59	9°♄13'36	4.45528 AU
morning rise	1738 Apr 09 18:55	9°♄44'14		direct	1744 May 31 08:53	4°♄18'14	
	1738 Aug 04 17:21	0°♄		evening set	1744 Oct 04 19:37	21°♄49'00	
retrograde	1738 Aug 20 04:09	0°♄23'37		max. Earth dist.	1744 Oct 15 22:31	24°♄13'47	6.44254 AU
	1738 Sep 04 14:32	30°♄					
opposition	1738 Oct 18 22:16	25°♄19'47	-1°-34'-14	conjunction	1744 Oct 17 15:38	24°♄36'10	1°04'00
min. Earth dist.	1738 Oct 17 16:44	25°♄29'47	3.96663 AU	minimum elong	1744 Oct 17 15:39	24°♄36'11	1°04'00
direct	1738 Dec 15 18:51	20°♄24'47		morning rise	1744 Oct 30 09:09	27°♄22'12	
	1739 Mar 06 22:39	0°♄			1744 Nov 11 15:38	0°♄	
evening set	1739 Apr 20 15:51	10°♄01'05		retrograde	1745 Feb 27 21:00	14°♄14'32	
				opposition	1745 Apr 29 16:45	9°♄22'31	1°22'46
conjunction	1739 May 04 05:56	13°♄14'38	0°-53'-31	min. Earth dist.	1745 May 01 02:03	9°♄11'54	4.41360 AU
minimum elong	1739 May 04 05:58	13°♄14'39	0°53'31	direct	1745 Jul 01 10:06	4°♄21'35	
max. Earth dist.	1739 May 06 10:39	13°♄45'58	6.00026 AU		1745 Oct 01 21:05	15°♄	
	1739 May 11 15:21	15°♄		evening set	1745 Nov 04 09:15	22°♄04'01	
morning rise	1739 May 17 22:31	16°♄29'20		max. Earth dist.	1745 Nov 15 00:31	24°♄25'19	6.36686 AU
	1739 Jul 20 10:17	0°♄					
retrograde	1739 Sep 25 14:53	6°♄34'10		conjunction	1745 Nov 17 01:47	24°♄52'42	0°45'31
min. Earth dist.	1739 Nov 22 17:18	1°♄40'49	4.05317 AU	minimum elong	1745 Nov 17 01:49	24°♄52'43	0°45'31
opposition	1739 Nov 24 03:46	1°♄29'04	0°-58'-8	morning rise	1745 Nov 29 16:24	27°♄40'41	
	1739 Dec 05 05:12	30°♄			1745 Dec 10 06:36	0°♄	
direct	1740 Jan 21 11:04	26°♄31'15		retrograde	1746 Apr 01 01:39	15°♄08'00	
	1740 Mar 08 09:27	0°♄		opposition	1746 Jun 01 00:46	10°♄15'54	0°45'13
evening set	1740 May 26 18:36	15°♄39'03		min. Earth dist.	1746 Jun 02 12:49	10°♄04'26	4.30779 AU
				direct	1746 Aug 02 03:36	5°♄17'09	
conjunction	1740 Jun 09 12:45	18°♄49'05	0°-21'-23	evening set	1746 Dec 05 15:26	23°♄26'52	
minimum elong	1740 Jun 09 12:46	18°♄49'06	0°21'25	max. Earth dist.	1746 Dec 16 08:43	25°♄53'42	6.23918 AU
max. Earth dist.	1740 Jun 11 17:29	19°♄19'28	6.11788 AU				
morning rise	1740 Jun 23 07:54	21°♄59'20		conjunction	1746 Dec 18 07:17	26°♄20'22	0°13'19
	1740 Jul 29 22:52	0°♄		minimum elong	1746 Dec 18 07:18	26°♄20'23	0°13'19
retrograde	1740 Oct 28 14:55	10°♄59'02		behind sun begin	1746 Dec 18 02:34	26°♄17'41	
min. Earth dist.	1740 Dec 26 01:19	6°♄05'17	4.18875 AU	behind sun end	1746 Dec 18 12:02	26°♄23'04	
opposition	1740 Dec 27 06:12	5°♄55'30	0°-3'-7	morning rise	1746 Dec 30 22:52	29°♄13'57	

	1747 Jan 03 07:55	0°♄		min. Earth dist.	1752 Dec 30 18:41	10°♄53'48	4.20474 AU
retrograde	1747 May 05 12:00	17°♄39'49		direct	1753 Mar 01 10:57	5°♄43'44	
desc. node	1747 May 07 09:56	17°♄39'28		evening set	1753 Jul 06 05:57	24°♄09'53	
opposition	1747 Jul 05 07:49	12°♄46'01	0°-8'-24				
min. Earth dist.	1747 Jul 06 11:45	12°♄37'02	4.16584 AU	conjunction	1753 Jul 19 21:47	27°♄11'55	0°21'54
direct	1747 Sep 04 06:30	7°♄49'42		minimum elong	1753 Jul 19 21:45	27°♄11'54	0°21'54
evening set	1748 Jan 07 10:52	26°♄37'16		max. Earth dist.	1753 Jul 21 05:32	27°♄29'34	6.27700 AU
max. Earth dist.	1748 Jan 19 02:07	29°♄21'44	6.09540 AU		1753 Aug 01 12:36	0°♄	
				morning rise	1753 Aug 02 12:15	0°♄13'03	
conjunction	1748 Jan 20 05:20	29°♄37'48	0°-24'-35		1753 Oct 20 15:11	15°♄	
minimum elong	1748 Jan 20 05:19	29°♄37'47	0°24'36	retrograde	1753 Dec 03 21:56	17°♄59'19	
	1748 Jan 21 18:55	0°♄			1754 Jan 17 07:29	15°♄♄	
morning rise	1748 Feb 02 00:46	2°♄39'10		opposition	1754 Feb 01 20:00	12°♄59'39	0°55'44
	1748 Mar 30 12:56	15°♄		min. Earth dist.	1754 Feb 01 07:51	13°♄03'41	4.34121 AU
retrograde	1748 Jun 10 05:34	22°♄14'15		direct	1754 Apr 03 17:14	7°♄57'04	
opposition	1748 Aug 09 16:23	17°♄17'24	-1°-2'-47		1754 Jun 15 06:18	15°♄	
min. Earth dist.	1748 Aug 10 01:38	17°♄14'23	4.03223 AU	evening set	1754 Aug 08 15:59	25°♄50'17	
	1748 Aug 27 21:46	15°♄♄					
direct	1748 Oct 08 03:10	12°♄23'15		conjunction	1754 Aug 22 00:51	28°♄44'34	0°51'35
	1748 Nov 17 13:58	15°♄		minimum elong	1754 Aug 22 00:49	28°♄44'33	0°51'35
	1749 Feb 02 20:00	0°♄♄		max. Earth dist.	1754 Aug 22 03:22	28°♄45'56	6.39461 AU
evening set	1749 Feb 10 08:31	1°♄47'34			1754 Aug 27 19:28	0°♄♄	
				morning rise	1754 Sep 04 07:24	1°♄37'31	
conjunction	1749 Feb 23 08:09	4°♄55'17	0°-55'-20	retrograde	1755 Jan 03 08:25	18°♄38'57	
minimum elong	1749 Feb 23 08:07	4°♄55'15	0°55'21	opposition	1755 Mar 04 13:56	13°♄42'58	1°28'12
max. Earth dist.	1749 Feb 23 10:04	4°♄56'26	5.98410 AU	min. Earth dist.	1755 Mar 04 21:10	13°♄40'36	4.43275 AU
morning rise	1749 Mar 08 10:29	8°♄04'32		direct	1755 May 05 15:57	8°♄40'00	
retrograde	1749 Jul 18 08:04	28°♄34'01		evening set	1755 Sep 09 09:08	26°♄13'39	
opposition	1749 Sep 16 09:04	23°♄33'11	-1°-36'00	max. Earth dist.	1755 Sep 21 11:15	28°♄49'58	6.45275 AU
min. Earth dist.	1749 Sep 15 19:08	23°♄37'50	3.95585 AU				
direct	1749 Nov 13 14:43	18°♄39'31		conjunction	1755 Sep 22 10:32	29°♄02'33	1°05'57
	1750 Feb 10 19:23	0°♄♄		minimum elong	1755 Sep 22 10:31	29°♄02'33	1°05'57
evening set	1750 Mar 19 03:43	8°♄23'34			1755 Sep 26 20:50	0°♄♄	
				morning rise	1755 Oct 05 08:59	1°♄50'02	
conjunction	1750 Apr 01 11:17	11°♄36'27	-1°-5'-35	retrograde	1756 Feb 02 09:45	18°♄33'58	
minimum elong	1750 Apr 01 11:18	11°♄36'28	1°05'36	opposition	1756 Apr 03 00:46	13°♄40'41	1°36'17
max. Earth dist.	1750 Apr 02 22:37	11°♄57'49	5.94946 AU	min. Earth dist.	1756 Apr 03 23:52	13°♄33'16	4.45538 AU
morning rise	1750 Apr 14 21:50	14°♄50'58		direct	1756 Jun 04 17:14	8°♄38'25	
	1750 Jun 25 09:12	0°♄♄		evening set	1756 Oct 09 02:30	26°♄09'11	
retrograde	1750 Aug 25 08:07	5°♄30'48		max. Earth dist.	1756 Oct 20 03:45	28°♄33'17	6.43745 AU
opposition	1750 Oct 23 23:02	0°♄26'42	-1°-31'-15				
min. Earth dist.	1750 Oct 22 17:09	0°♄36'51	3.96825 AU	conjunction	1756 Oct 21 21:53	28°♄56'16	1°02'23
	1750 Oct 27 05:42	30°♄♄		minimum elong	1756 Oct 21 21:54	28°♄56'17	1°02'22
direct	1750 Dec 20 19:54	25°♄31'24			1756 Oct 26 18:42	0°♄♄	
	1751 Feb 11 21:07	0°♄♄		morning rise	1756 Nov 03 14:39	1°♄42'14	
evening set	1751 Apr 25 19:15	15°♄07'25			1757 Jan 13 11:05	15°♄♄	
	1751 Apr 25 06:41	15°♄♄		retrograde	1757 Mar 04 06:12	18°♄37'17	
					1757 Apr 24 05:48	15°♄♄♄	
conjunction	1751 May 09 10:16	18°♄21'06	0°-50'00	opposition	1757 May 04 03:04	13°♄45'21	1°18'46
minimum elong	1751 May 09 10:19	18°♄21'08	0°50'01	min. Earth dist.	1757 May 05 13:44	13°♄34'19	4.40343 AU
max. Earth dist.	1751 May 11 16:18	18°♄53'09	6.00685 AU	direct	1757 Jul 05 20:17	8°♄44'39	
morning rise	1751 May 23 03:49	21°♄35'54			1757 Sep 12 04:11	15°♄♄	
	1751 Jun 29 11:49	0°♄♄		evening set	1757 Nov 08 16:50	26°♄29'37	
retrograde	1751 Sep 30 11:23	11°♄35'25		max. Earth dist.	1757 Nov 19 05:38	28°♄50'06	6.35225 AU
min. Earth dist.	1751 Nov 27 12:50	6°♄42'28	4.06401 AU				
opposition	1751 Nov 29 00:16	6°♄30'22	0°-51'-8	conjunction	1757 Nov 21 08:59	29°♄18'44	0°41'40
direct	1752 Jan 26 08:10	1°♄32'10		minimum elong	1757 Nov 21 09:01	29°♄18'45	0°41'41
evening set	1752 May 31 20:24	20°♄37'08			1757 Nov 24 10:57	0°♄♄	
				morning rise	1757 Dec 03 23:41	2°♄♄07'19	
conjunction	1752 Jun 14 14:43	23°♄46'37	0°-16'-6	retrograde	1758 Apr 05 17:48	19°♄♄41'19	
minimum elong	1752 Jun 14 14:44	23°♄46'38	0°16'06	opposition	1758 Jun 05 16:42	14°♄♄49'01	0°38'23
max. Earth dist.	1752 Jun 16 17:22	24°♄15'43	6.13213 AU	min. Earth dist.	1758 Jun 07 04:29	14°♄♄37'36	4.28946 AU
morning rise	1752 Jun 28 09:52	26°♄56'11		direct	1758 Aug 06 16:37	9°♄♄50'29	
	1752 Jul 12 00:33	0°♄♄		evening set	1758 Dec 10 02:45	28°♄♄05'03	
retrograde	1752 Nov 02 06:31	15°♄47'57			1758 Dec 18 11:31	0°♄♄	
asc. node	1752 Nov 28 00:49	14°♄42'35		max. Earth dist.	1758 Dec 20 22:55	0°♄♄34'09	6.21872 AU
opposition	1752 Dec 31 21:32	10°♄44'43	0°04'49				

conjunction	1758 Dec 22 18:58	0°♄59'30	0°08'06	morning rise	1764 Jul 03 11:54	1°♄52'23	
minimum elong	1758 Dec 22 18:59	0°♄59'30	0°08'05	asc. node	1764 Oct 07 21:32	19°♄07'33	
behind sun begin	1758 Dec 22 11:52	0°♄55'26		retrograde	1764 Nov 06 19:14	20°♄33'07	
behind sun end	1758 Dec 23 02:06	1°♄03'35		min. Earth dist.	1765 Jan 04 09:44	15°♄39'03	4.22835 AU
morning rise	1759 Jan 04 10:48	3°♄54'05		opposition	1765 Jan 05 11:31	15°♄30'21	0°12'38
desc. node	1759 Mar 17 02:55	18°♄10'39		direct	1765 Mar 06 05:09	10°♄29'06	
retrograde	1759 May 10 12:12	22°♄29'32		evening set	1765 Jul 11 00:49	28°♄48'53	
opposition	1759 Jul 10 07:01	17°♄35'25	0°-16'-27		1765 Jul 16 09:43	0°♄	
min. Earth dist.	1759 Jul 11 09:11	17°♄27'00	4.14473 AU				
direct	1759 Sep 09 00:35	12°♄39'27		conjunction	1765 Jul 24 15:38	1°♄49'35	0°26'44
	1760 Jan 05 14:20	0°♄		minimum elong	1765 Jul 24 15:36	1°♄49'34	0°26'44
evening set	1760 Jan 12 05:10	1°♄32'57		max. Earth dist.	1765 Jul 25 18:09	2°♄04'16	6.29919 AU
max. Earth dist.	1760 Jan 23 23:02	4°♄19'44	6.07542 AU	morning rise	1765 Aug 07 05:13	4°♄49'22	
					1765 Sep 26 01:50	15°♄	
conjunction	1760 Jan 25 00:02	4°♄34'34	0°-29'-40	retrograde	1765 Dec 08 05:06	22°♄26'54	
minimum elong	1760 Jan 25 00:00	4°♄34'33	0°29'41	opposition	1766 Feb 06 03:52	17°♄27'46	1°01'29
morning rise	1760 Feb 06 20:26	7°♄37'10		min. Earth dist.	1766 Feb 05 19:18	17°♄30'36	4.36026 AU
	1760 Mar 10 06:48	15°♄			1766 Feb 25 14:46	15°♄	
retrograde	1760 Jun 15 12:18	27°♄22'07		direct	1766 Apr 08 06:55	12°♄25'01	
opposition	1760 Aug 14 22:03	22°♄24'43	-1°-9'-15		1766 May 20 08:27	15°♄	
min. Earth dist.	1760 Aug 15 03:45	22°♄22'51	4.01536 AU		1766 Aug 12 01:46	0°♄	
direct	1760 Oct 13 03:45	17°♄30'44		evening set	1766 Aug 13 03:10	0°♄13'41	
	1761 Jan 16 08:04	0°♄					
evening set	1761 Feb 15 10:31	7°♄00'01		conjunction	1766 Aug 26 11:07	3°♄06'58	0°54'33
				minimum elong	1766 Aug 26 11:05	3°♄06'57	0°54'33
conjunction	1761 Feb 28 11:19	10°♄08'47	0°-58'-16	max. Earth dist.	1766 Aug 26 10:39	3°♄06'43	6.40896 AU
minimum elong	1761 Feb 28 11:18	10°♄08'45	0°58'17	morning rise	1766 Sep 08 16:18	5°♄58'50	
max. Earth dist.	1761 Feb 28 19:20	10°♄13'37	5.97209 AU	retrograde	1767 Jan 07 10:33	22°♄55'37	
morning rise	1761 Mar 13 14:38	13°♄19'04		opposition	1767 Mar 08 18:35	18°♄00'06	1°30'47
	1761 Jun 03 01:14	0°♄		min. Earth dist.	1767 Mar 09 03:44	17°♄57'08	4.44167 AU
retrograde	1761 Jul 23 19:25	3°♄53'56		direct	1767 May 09 22:42	12°♄57'12	
	1761 Sep 13 06:32	30°♄			1767 Sep 11 09:11	0°♄	
opposition	1761 Sep 21 17:31	28°♄52'37	-1°-37'-48	evening set	1767 Sep 13 15:42	0°♄29'10	
min. Earth dist.	1761 Sep 21 01:26	28°♄58'01	3.95041 AU				
direct	1761 Nov 18 21:04	23°♄58'55		conjunction	1767 Sep 26 16:01	3°♄17'33	1°06'30
	1762 Jan 20 01:47	0°♄		minimum elong	1767 Sep 26 16:00	3°♄17'33	1°06'30
evening set	1762 Mar 24 11:14	13°♄44'13		max. Earth dist.	1767 Sep 25 12:29	3°♄02'40	6.45541 AU
				morning rise	1767 Oct 09 13:35	6°♄04'36	
conjunction	1762 Apr 06 19:54	16°♄57'35	-1°-4'-54	retrograde	1768 Feb 06 15:03	22°♄48'26	
minimum elong	1762 Apr 06 19:55	16°♄57'35	1°04'55	opposition	1768 Apr 07 06:07	17°♄55'30	1°35'20
max. Earth dist.	1762 Apr 08 10:47	17°♄21'03	5.95110 AU	min. Earth dist.	1768 Apr 08 08:30	17°♄47'03	4.45167 AU
morning rise	1762 Apr 20 07:47	20°♄12'34		direct	1768 Jun 09 00:45	12°♄53'23	
	1762 Jun 02 10:45	0°♄			1768 Oct 11 08:08	0°♄	
retrograde	1762 Aug 30 13:41	10°♄49'50		evening set	1768 Oct 13 07:29	0°♄25'37	
min. Earth dist.	1762 Oct 27 19:56	5°♄56'33	3.97722 AU	max. Earth dist.	1768 Oct 24 04:53	2°♄48'02	6.42746 AU
opposition	1762 Oct 29 04:34	5°♄45'27	-1°-27'-21				
direct	1762 Dec 26 00:38	0°♄49'51		conjunction	1768 Oct 26 02:19	3°♄12'53	1°00'28
	1763 Apr 07 19:04	15°♄		minimum elong	1768 Oct 26 02:21	3°♄12'53	1°00'27
evening set	1763 May 01 02:53	20°♄22'29		morning rise	1768 Nov 07 18:42	5°♄59'05	
					1768 Dec 21 21:43	15°♄	
conjunction	1763 May 14 18:38	23°♄35'48	0°-46'00	retrograde	1769 Mar 08 15:15	22°♄58'47	
minimum elong	1763 May 14 18:40	23°♄35'50	0°46'01	opposition	1769 May 08 12:46	18°♄06'53	1°14'24
max. Earth dist.	1763 May 17 01:26	24°♄08'11	6.02231 AU	min. Earth dist.	1769 May 09 23:59	17°♄55'40	4.38778 AU
morning rise	1763 May 28 12:45	26°♄50'07			1769 Jun 03 23:26	15°♄	
	1763 Jun 11 04:57	0°♄		direct	1769 Jul 10 03:27	13°♄06'25	
retrograde	1763 Oct 05 09:26	16°♄40'32			1769 Aug 15 06:31	15°♄	
opposition	1763 Dec 03 22:39	11°♄35'33	0°-43'-39		1769 Nov 08 18:59	0°♄	
min. Earth dist.	1763 Dec 02 12:05	11°♄47'20	4.08406 AU	evening set	1769 Nov 13 00:00	0°♄55'52	
direct	1764 Jan 31 11:06	6°♄36'55		max. Earth dist.	1769 Nov 23 13:46	3°♄17'31	6.33219 AU
evening set	1764 Jun 05 22:53	25°♄35'37					
				conjunction	1769 Nov 25 16:08	3°♄45'45	0°37'37
conjunction	1764 Jun 19 17:16	28°♄44'04	0°-10'-41	minimum elong	1769 Nov 25 16:10	3°♄45'46	0°37'37
minimum elong	1764 Jun 19 17:17	28°♄44'05	0°10'42	morning rise	1769 Dec 08 06:45	6°♄35'08	
behind sun begin	1764 Jun 19 10:55	28°♄40'28		retrograde	1770 Apr 10 11:58	24°♄17'54	
behind sun end	1764 Jun 19 23:38	28°♄47'41		opposition	1770 Jun 10 09:52	19°♄25'30	0°31'19
max. Earth dist.	1764 Jun 21 19:48	29°♄12'56	6.15512 AU	min. Earth dist.	1770 Jun 11 21:35	19°♄14'07	4.26615 AU
	1764 Jun 25 06:15	0°♄		direct	1770 Aug 11 06:04	14°♄27'22	

	1770 Dec 02 06:36	0°♄			1776 Jun 08 18:27	0°♄	
evening set	1770 Dec 14 15:57	2°♄48'31		evening set	1776 Jun 10 23:57	0°♄30'11	
max. Earth dist.	1770 Dec 25 12:58	5°♄19'00	6.19414 AU				
				conjunction	1776 Jun 24 17:56	3°♄37'29	0°-5'-14
conjunction	1770 Dec 27 08:20	5°♄44'05	0°02'48	minimum elong	1776 Jun 24 17:57	3°♄37'29	0°05'15
minimum elong	1770 Dec 27 08:20	5°♄44'05	0°02'48	behind sun begin	1776 Jun 24 09:52	3°♄32'55	
behind sun begin	1770 Dec 27 00:22	5°♄39'30		behind sun end	1776 Jun 25 02:02	3°♄42'04	
behind sun end	1770 Dec 27 16:18	5°♄48'40		max. Earth dist.	1776 Jun 26 16:28	4°♄03'55	6.17806 AU
morning rise	1771 Jan 09 00:51	8°♄39'56		morning rise	1776 Jul 08 12:18	6°♄44'36	
desc. node	1771 Jan 24 20:04	12°♄15'12		asc. node	1776 Aug 17 11:24	15°♄18'20	
retrograde	1771 May 15 15:16	27°♄26'36		retrograde	1776 Nov 11 06:54	25°♄14'53	
opposition	1771 Jul 15 08:42	22°♄32'05	0°-24'-31	min. Earth dist.	1777 Jan 09 01:05	20°♄20'23	4.25034 AU
min. Earth dist.	1771 Jul 16 07:43	22°♄24'39	4.12083 AU	opposition	1777 Jan 10 00:22	20°♄12'32	0°20'19
direct	1771 Sep 13 20:10	17°♄36'27		direct	1777 Mar 10 23:23	15°♄10'57	
	1771 Dec 19 04:32	0°♄			1777 Jun 29 23:23	0°♄	
evening set	1772 Jan 17 02:24	6°♄36'52		evening set	1777 Jul 15 18:26	3°♄25'09	
conjunction	1772 Jan 29 22:08	9°♄39'43	0°-34'-36	conjunction	1777 Jul 29 08:33	6°♄24'41	0°31'24
minimum elong	1772 Jan 29 22:06	9°♄39'42	0°34'37	minimum elong	1777 Jul 29 08:31	6°♄24'40	0°31'24
max. Earth dist.	1772 Jan 29 03:01	9°♄28'19	6.05458 AU	max. Earth dist.	1777 Jul 30 08:19	6°♄37'48	6.31869 AU
morning rise	1772 Feb 11 19:17	12°♄43'36		morning rise	1777 Aug 11 20:52	9°♄23'09	
	1772 Feb 21 11:23	15°♄			1777 Sep 07 05:50	15°♄	
	1772 May 10 09:22	0°♄		retrograde	1777 Dec 12 11:19	26°♄53'08	
retrograde	1772 Jun 20 23:26	2°♄38'20		opposition	1778 Feb 10 11:24	21°♄54'35	1°06'55
	1772 Aug 01 19:57	30°♄		min. Earth dist.	1778 Feb 10 05:02	21°♄56'41	4.37601 AU
opposition	1772 Aug 20 06:41	27°♄40'24	-1°-15'-16	direct	1778 Apr 12 18:06	16°♄51'46	
min. Earth dist.	1772 Aug 20 09:31	27°♄39'28	3.99981 AU		1778 Jul 26 16:46	0°♄	
direct	1772 Oct 18 08:03	22°♄46'37		evening set	1778 Aug 17 14:47	4°♄37'02	
	1772 Dec 26 17:24	0°♄					
evening set	1773 Feb 20 15:28	12°♄20'00		conjunction	1778 Aug 30 21:28	7°♄29'25	0°57'15
				minimum elong	1778 Aug 30 21:26	7°♄29'24	0°57'15
conjunction	1773 Mar 05 17:12	15°♄29'37	-1°00'-45	max. Earth dist.	1778 Aug 30 15:15	7°♄26'03	6.41970 AU
minimum elong	1773 Mar 05 17:10	15°♄29'36	1°00'45	morning rise	1778 Sep 13 01:40	10°♄20'26	
max. Earth dist.	1773 Mar 06 05:41	15°♄37'10	5.96318 AU	retrograde	1779 Jan 11 16:23	27°♄13'48	
morning rise	1773 Mar 18 21:51	18°♄40'51		opposition	1779 Mar 13 00:26	22°♄18'43	1°32'56
	1773 May 08 08:41	0°♄		min. Earth dist.	1779 Mar 13 13:08	22°♄14'36	4.44702 AU
retrograde	1773 Jul 29 05:44	9°♄19'03		direct	1779 May 14 08:02	17°♄15'49	
min. Earth dist.	1773 Sep 26 06:58	4°♄23'58	3.94944 AU		1779 Aug 26 03:10	0°♄	
opposition	1773 Sep 27 03:19	4°♄17'09	-1°-38'-44	evening set	1779 Sep 17 23:12	4°♄47'05	
	1773 Nov 05 06:57	30°♄					
direct	1773 Nov 24 03:48	29°♄23'16		conjunction	1779 Sep 30 22:48	7°♄35'10	1°06'43
	1773 Dec 13 01:45	0°♄		minimum elong	1779 Sep 30 22:48	7°♄35'10	1°06'43
evening set	1774 Mar 29 20:02	19°♄07'48		max. Earth dist.	1779 Sep 29 16:46	7°♄18'55	6.45488 AU
				morning rise	1779 Oct 13 19:23	10°♄21'53	
conjunction	1774 Apr 12 05:46	22°♄21'20	-1°-3'-38	retrograde	1780 Feb 10 20:46	27°♄06'41	
minimum elong	1774 Apr 12 05:48	22°♄21'21	1°03'38	opposition	1780 Apr 11 13:37	22°♄14'00	1°33'52
max. Earth dist.	1774 Apr 14 00:14	22°♄46'55	5.95785 AU	min. Earth dist.	1780 Apr 12 16:57	22°♄05'14	4.44552 AU
morning rise	1774 Apr 25 18:39	25°♄36'26		direct	1780 Jun 13 07:13	17°♄12'05	
	1774 May 14 11:19	0°♄			1780 Sep 25 02:34	0°♄	
	1774 Aug 09 04:54	15°♄		evening set	1780 Oct 17 14:23	4°♄46'21	
retrograde	1774 Sep 04 18:31	16°♄08'36		max. Earth dist.	1780 Oct 28 09:41	7°♄08'04	6.41607 AU
	1774 Oct 01 03:19	15°♄					
min. Earth dist.	1774 Nov 02 00:05	11°♄15'12	3.99062 AU	conjunction	1780 Oct 30 08:36	7°♄33'49	0°58'10
opposition	1774 Nov 03 09:23	11°♄03'52	-1°-22'-43	minimum elong	1780 Oct 30 08:38	7°♄33'50	0°58'10
direct	1774 Dec 31 07:37	6°♄07'48		morning rise	1780 Nov 12 00:34	10°♄20'19	
	1775 Mar 19 06:51	15°♄			1780 Dec 03 20:17	15°♄	
evening set	1775 May 06 09:50	25°♄35'28		retrograde	1781 Mar 13 04:32	27°♄25'07	
				opposition	1781 May 13 01:12	22°♄33'20	1°09'30
conjunction	1775 May 20 02:21	28°♄48'15	0°-41'-39	min. Earth dist.	1781 May 14 14:00	22°♄21'37	4.37179 AU
minimum elong	1775 May 20 02:24	28°♄48'17	0°41'40	direct	1781 Jul 14 14:51	17°♄33'11	
max. Earth dist.	1775 May 22 11:08	29°♄21'37	6.04102 AU		1781 Oct 23 05:56	0°♄	
	1775 May 25 04:31	0°♄		evening set	1781 Nov 17 09:29	5°♄27'04	
morning rise	1775 Jun 02 20:46	2°♄01'48		max. Earth dist.	1781 Nov 27 22:30	7°♄48'57	6.31290 AU
retrograde	1775 Oct 10 06:01	21°♄41'51					
min. Earth dist.	1775 Dec 07 09:05	16°♄48'40	4.10588 AU	conjunction	1781 Nov 30 01:30	8°♄17'40	0°33'14
opposition	1775 Dec 08 19:13	16°♄37'03	0°-35'-54	minimum elong	1781 Nov 30 01:32	8°♄17'41	0°33'13
direct	1776 Feb 05 11:13	11°♄38'00		morning rise	1781 Dec 12 16:18	11°♄07'54	

retrograde	1782 Apr 15 07:25	28° ♂ 59'13		retrograde	1787 Oct 14 21:18	26° ♂ 33'21	
opposition	1782 Jun 15 05:17	24° ♂ 06'39	0°23'51	min. Earth dist.	1787 Dec 12 02:37	21° ♂ 40'01	4.12630 AU
min. Earth dist.	1782 Jun 16 14:57	23° ♂ 55'53	4.24499 AU	opposition	1787 Dec 13 11:38	21° ♂ 28'46	0°-28'-12
direct	1782 Aug 15 20:13	19° ♂ 08'55		direct	1788 Feb 10 07:44	16° ♂ 29'19	
	1782 Nov 14 19:18	0° ♂			1788 May 22 23:29	0° ♂	
desc. node	1782 Dec 04 00:02	4° ♂ 07'40		evening set	1788 Jun 15 20:58	5° ♂ 15'52	
evening set	1782 Dec 19 06:47	7° ♂ 35'53		asc. node	1788 Jun 28 07:09	8° ♂ 04'15	
max. Earth dist.	1782 Dec 30 08:23	10° ♂ 09'41	6.17313 AU				
conjunction	1782 Dec 31 23:33	10° ♂ 32'27	0°-2'-44	conjunction	1788 Jun 29 14:51	8° ♂ 22'11	0°00'08
minimum elong	1782 Dec 31 23:33	10° ♂ 32'27	0°02'45	minimum elong	1788 Jun 29 14:51	8° ♂ 22'11	0°00'07
behind sun begin	1782 Dec 31 15:34	10° ♂ 27'50		behind sun begin	1788 Jun 29 06:40	8° ♂ 17'34	
behind sun end	1783 Jan 01 07:32	10° ♂ 37'04		behind sun end	1788 Jun 29 23:02	8° ♂ 26'47	
morning rise	1783 Jan 13 16:26	13° ♂ 29'24		max. Earth dist.	1788 Jul 01 11:10	8° ♂ 47'15	6.19843 AU
	1783 Apr 10 16:59	0° ♂		morning rise	1788 Jul 13 08:29	11° ♂ 28'07	
retrograde	1783 May 20 20:35	2° ♂ 26'02		retrograde	1788 Nov 15 16:57	29° ♂ 49'20	
	1783 Jun 30 07:59	30° ♂		opposition	1789 Jan 14 10:04	24° ♂ 47'33	0°27'36
opposition	1783 Jul 20 11:48	27° ♂ 31'10	0°-32'-31	min. Earth dist.	1789 Jan 13 13:22	24° ♂ 54'31	4.26885 AU
min. Earth dist.	1783 Jul 21 08:50	27° ♂ 24'22	4.10182 AU	direct	1789 Mar 15 13:22	19° ♂ 45'46	
direct	1783 Sep 18 19:00	22° ♂ 35'57			1789 Jun 12 11:27	0° ♂	
	1783 Nov 29 07:24	0° ♂		evening set	1789 Jul 20 09:20	7° ♂ 55'44	
evening set	1784 Jan 22 00:08	11° ♂ 41'24		conjunction	1789 Aug 02 22:29	10° ♂ 54'16	0°35'45
conjunction	1784 Feb 03 20:25	14° ♂ 45'11	0°-39'-18	minimum elong	1789 Aug 02 22:27	10° ♂ 54'15	0°35'44
minimum elong	1784 Feb 03 20:23	14° ♂ 45'10	0°39'19	max. Earth dist.	1789 Aug 03 17:02	11° ♂ 04'28	6.33390 AU
max. Earth dist.	1784 Feb 03 05:00	14° ♂ 35'58	6.03934 AU	morning rise	1789 Aug 16 09:56	13° ♂ 51'43	
	1784 Feb 04 21:13	15° ♂			1789 Aug 21 15:31	15° ♂	
morning rise	1784 Feb 16 18:33	17° ♂ 50'08			1789 Nov 18 07:29	0° ♂	
	1784 Apr 12 10:55	0° ♂		retrograde	1789 Dec 16 16:34	1° ♂ 15'55	
retrograde	1784 Jun 26 06:50	7° ♂ 52'21			1790 Jan 13 21:53	30° ♂	
opposition	1784 Aug 25 14:07	2° ♂ 53'52	-1°-20'-39	opposition	1790 Feb 14 17:26	26° ♂ 17'51	1°11'52
min. Earth dist.	1784 Aug 25 12:20	2° ♂ 54'27	3.99025 AU	min. Earth dist.	1790 Feb 14 13:57	26° ♂ 19'00	4.38719 AU
	1784 Sep 18 03:18	30° ♂		direct	1790 Apr 17 03:35	21° ♂ 14'56	
direct	1784 Oct 23 10:35	28° ♂ 00'15			1790 Jul 08 17:52	0° ♂	
	1784 Nov 27 08:40	0° ♂		evening set	1790 Aug 22 00:31	8° ♂ 58'13	
evening set	1785 Feb 25 19:04	17° ♂ 35'41		conjunction	1790 Sep 04 06:22	11° ♂ 49'57	0°59'34
conjunction	1785 Mar 10 21:47	20° ♂ 45'52	-1°-2'-42	minimum elong	1790 Sep 04 06:20	11° ♂ 49'56	0°59'35
minimum elong	1785 Mar 10 21:46	20° ♂ 45'52	1°02'43	max. Earth dist.	1790 Sep 03 21:41	11° ♂ 45'15	6.42614 AU
max. Earth dist.	1785 Mar 11 15:32	20° ♂ 56'38	5.96008 AU	morning rise	1790 Sep 17 09:19	14° ♂ 40'15	
morning rise	1785 Mar 24 03:25	23° ♂ 57'42			1790 Dec 15 08:52	0° ♂	
	1785 Apr 18 21:45	0° ♂		retrograde	1791 Jan 15 20:35	1° ♂ 31'40	
retrograde	1785 Aug 03 13:13	14° ♂ 36'53			1791 Feb 16 07:52	30° ♂	
min. Earth dist.	1785 Oct 01 11:30	9° ♂ 41'57	3.95324 AU	opposition	1791 Mar 17 05:57	26° ♂ 37'01	1°34'33
opposition	1785 Oct 02 09:49	9° ♂ 34'26	-1°-38'-49	min. Earth dist.	1791 Mar 17 20:22	26° ♂ 32'21	4.44863 AU
direct	1785 Nov 29 09:55	4° ♂ 40'21		direct	1791 May 18 14:38	21° ♂ 34'15	
evening set	1786 Apr 04 01:28	24° ♂ 22'42			1791 Aug 08 02:36	0° ♂	
conjunction	1786 Apr 17 12:20	27° ♂ 36'15	-1°-1'-54	evening set	1791 Sep 22 06:30	9° ♂ 05'44	
minimum elong	1786 Apr 17 12:21	27° ♂ 36'16	1°01'54	max. Earth dist.	1791 Oct 03 19:09	11° ♂ 35'11	6.45151 AU
max. Earth dist.	1786 Apr 19 10:50	28° ♂ 04'10	5.96803 AU	conjunction	1791 Oct 05 05:05	11° ♂ 53'35	1°06'33
	1786 Apr 27 12:08	0° ♂		minimum elong	1791 Oct 05 05:05	11° ♂ 53'35	1°06'32
morning rise	1786 May 01 02:05	0° ♂ 51'16		morning rise	1791 Oct 18 01:02	14° ♂ 40'09	
	1786 Jul 06 07:37	15° ♂			1792 Jan 15 10:59	0° ♂	
retrograde	1786 Sep 09 19:36	21° ♂ 17'04		retrograde	1792 Feb 15 05:34	1° ♂ 26'42	
min. Earth dist.	1786 Nov 06 23:49	16° ♂ 23'49	4.00604 AU		1792 Mar 17 00:41	30° ♂	
opposition	1786 Nov 08 09:54	16° ♂ 12'13	-1°-17'-34	opposition	1792 Apr 15 21:45	26° ♂ 34'13	1°31'53
	1786 Nov 17 08:16	15° ♂		min. Earth dist.	1792 Apr 17 03:27	26° ♂ 24'43	4.43753 AU
direct	1787 Jan 05 09:22	11° ♂ 15'48		direct	1792 Jun 17 16:15	21° ♂ 32'28	
	1787 Feb 22 20:00	15° ♂			1792 Sep 07 01:18	0° ♂	
	1787 May 08 18:48	0° ♂		evening set	1792 Oct 21 21:23	9° ♂ 08'57	
evening set	1787 May 11 12:37	0° ♂ 38'13		max. Earth dist.	1792 Nov 01 15:54	11° ♂ 30'39	6.40410 AU
conjunction	1787 May 25 05:28	3° ♂ 50'19	0°-37'-8	conjunction	1792 Nov 03 15:18	11° ♂ 56'44	0°55'31
minimum elong	1787 May 25 05:30	3° ♂ 50'20	0°37'08	minimum elong	1792 Nov 03 15:20	11° ♂ 56'45	0°55'32
max. Earth dist.	1787 May 27 12:21	4° ♂ 22'25	6.05998 AU	morning rise	1792 Nov 16 06:51	14° ♂ 43'34	
morning rise	1787 Jun 08 00:20	7° ♂ 03'08			1792 Nov 17 12:55	15° ♂	
					1793 Feb 10 07:02	0° ♂	

retrograde	1793 Mar 17 16:12	1°♏53'28		min. Earth dist.	1798 Nov 11 22:35	21°♏30'18	4.01815 AU
	1793 Apr 22 08:44	30°♏		opposition	1798 Nov 13 09:27	21°♏18'25	-1°-11'-55
opposition	1793 May 17 14:15	27°♏01'36	1°04'09	direct	1799 Jan 10 10:46	16°♏21'33	
min. Earth dist.	1793 May 19 02:05	26°♏50'11	4.35658 AU		1799 Apr 21 15:32	0°♏	
direct	1793 Jul 19 00:26	22°♏01'46		evening set	1799 May 16 15:46	5°♏40'16	
	1793 Oct 04 16:55	0°♏					
evening set	1793 Nov 21 18:57	9°♏59'21		conjunction	1799 May 30 09:17	8°♏51'55	0°-32'-20
max. Earth dist.	1793 Dec 02 09:30	12°♏22'41	6.29564 AU	minimum elong	1799 May 30 09:19	8°♏51'56	0°32'21
				max. Earth dist.	1799 Jun 01 16:16	9°♏23'57	6.07564 AU
conjunction	1793 Dec 04 10:51	12°♏50'35	0°28'38	morning rise	1799 Jun 13 04:15	12°♏04'05	
minimum elong	1793 Dec 04 10:52	12°♏50'36	0°28'37		1799 Sep 19 18:39	0°♏	
morning rise	1793 Dec 17 01:42	15°♏41'33		retrograde	1799 Oct 19 15:35	1°♏25'42	
	1794 Mar 01 01:52	0°♏			1799 Nov 18 04:18	30°♏	
retrograde	1794 Apr 20 04:24	3°♏40'38		min. Earth dist.	1799 Dec 16 21:29	26°♏32'03	4.14365 AU
	1794 Jun 10 12:30	30°♏		opposition	1799 Dec 18 04:43	26°♏21'26	0°-20'-17
opposition	1794 Jun 20 00:59	28°♏47'48	0°16'11	direct	1800 Feb 15 04:45	21°♏21'37	
min. Earth dist.	1794 Jun 21 10:14	28°♏37'10	4.22647 AU		1800 May 05 01:59	0°♏	
direct	1794 Aug 20 13:12	23°♏50'23		asc. node	1800 May 09 03:17	0°♏46'40	
desc. node	1794 Oct 13 15:32	28°♏06'43		evening set	1800 Jun 21 19:26	10°♏03'44	
	1794 Oct 25 11:36	0°♏					
evening set	1794 Dec 23 21:05	12°♏21'53		conjunction	1800 Jul 05 12:56	13°♏09'09	0°05'34
max. Earth dist.	1795 Jan 04 00:50	14°♏57'35	6.15486 AU	minimum elong	1800 Jul 05 12:56	13°♏09'08	0°05'35
				behind sun begin	1800 Jul 05 04:55	13°♏04'39	
conjunction	1795 Jan 05 14:07	15°♏19'20	0°-8'-7	behind sun end	1800 Jul 05 20:57	13°♏13'38	
minimum elong	1795 Jan 05 14:07	15°♏19'20	0°08'08	max. Earth dist.	1800 Jul 07 06:07	13°♏32'21	6.21598 AU
behind sun begin	1795 Jan 05 06:58	15°♏15'11		morning rise	1800 Jul 19 06:08	16°♏14'05	
behind sun end	1795 Jan 05 21:15	15°♏23'29			1800 Sep 27 09:35	0°♏	
morning rise	1795 Jan 18 07:36	18°♏17'16		retrograde	1800 Nov 21 02:46	4°♏27'16	
	1795 Mar 14 06:20	0°♏			1801 Jan 15 15:54	30°♏	
retrograde	1795 May 25 21:29	7°♏22'40		opposition	1801 Jan 19 21:30	29°♏25'58	0°34'51
opposition	1795 Jul 25 13:25	2°♏27'19	0°-40'-15	min. Earth dist.	1801 Jan 19 02:16	29°♏32'26	4.28525 AU
min. Earth dist.	1795 Jul 26 06:51	2°♏21'40	4.08525 AU	direct	1801 Mar 21 04:08	24°♏24'00	
	1795 Aug 14 09:27	30°♏			1801 May 23 09:13	0°♏	
direct	1795 Sep 23 15:01	27°♏32'22		evening set	1801 Jul 26 02:07	12°♏30'25	
	1795 Nov 02 05:23	0°♏			1801 Aug 06 11:23	15°♏	
	1796 Jan 19 16:04	15°♏					
evening set	1796 Jan 26 20:45	16°♏42'06		conjunction	1801 Aug 08 14:24	15°♏28'00	0°39'59
				minimum elong	1801 Aug 08 14:22	15°♏27'59	0°39'59
conjunction	1796 Feb 08 17:44	19°♏46'45	0°-43'-40	max. Earth dist.	1801 Aug 09 05:44	15°♏36'25	6.34813 AU
minimum elong	1796 Feb 08 17:41	19°♏46'44	0°43'40	morning rise	1801 Aug 22 00:40	18°♏24'24	
max. Earth dist.	1796 Feb 08 06:53	19°♏40'15	6.02587 AU		1801 Oct 19 18:40	0°♏	
morning rise	1796 Feb 21 16:40	22°♏52'40		retrograde	1801 Dec 22 00:25	5°♏43'07	
	1796 Mar 23 14:49	0°♏		opposition	1802 Feb 20 01:41	0°♏45'40	1°16'31
retrograde	1796 Jul 01 14:39	13°♏01'41		min. Earth dist.	1802 Feb 20 00:38	0°♏46'01	4.39856 AU
opposition	1796 Aug 30 19:40	8°♏02'37	-1°-25'-20		1802 Feb 25 21:03	30°♏	
min. Earth dist.	1796 Aug 30 15:39	8°♏03'57	3.98122 AU	direct	1802 Apr 22 15:31	25°♏42'51	
direct	1796 Oct 28 13:39	3°♏09'00			1802 Jun 17 04:33	0°♏	
evening set	1797 Mar 02 21:11	22°♏46'33		evening set	1802 Aug 27 12:25	13°♏23'53	
conjunction	1797 Mar 16 01:01	25°♏57'24	-1°-4'-9	conjunction	1802 Sep 09 17:06	16°♏14'53	1°01'38
minimum elong	1797 Mar 16 01:00	25°♏57'24	1°04'10	minimum elong	1802 Sep 09 17:05	16°♏14'52	1°01'39
max. Earth dist.	1797 Mar 16 23:38	26°♏11'05	5.95629 AU	max. Earth dist.	1802 Sep 09 04:18	16°♏07'57	6.43395 AU
morning rise	1797 Mar 29 07:46	29°♏09'54		morning rise	1802 Sep 22 19:05	19°♏04'28	
	1797 Apr 01 19:21	0°♏			1802 Nov 17 12:24	0°♏	
retrograde	1797 Aug 08 19:19	19°♏50'10		retrograde	1803 Jan 21 03:20	5°♏53'27	
opposition	1797 Oct 07 14:35	14°♏47'18	-1°-38'-8	opposition	1803 Mar 22 13:26	0°♏59'12	1°35'44
min. Earth dist.	1797 Oct 06 14:02	14°♏55'35	3.95540 AU	min. Earth dist.	1803 Mar 23 05:50	0°♏53'53	4.45293 AU
direct	1797 Dec 04 12:23	9°♏53'00			1803 Mar 30 05:37	30°♏	
evening set	1798 Apr 09 06:19	29°♏34'09		direct	1803 May 24 00:16	25°♏56'34	
	1798 Apr 11 01:41	0°♏			1803 Jul 17 10:00	0°♏	
				evening set	1803 Sep 27 14:39	13°♏27'11	
conjunction	1798 Apr 22 18:03	2°♏47'47	0°-59'-42	max. Earth dist.	1803 Oct 09 02:15	15°♏56'06	6.45216 AU
minimum elong	1798 Apr 22 18:05	2°♏47'49	0°59'43				
max. Earth dist.	1798 Apr 24 17:16	3°♏16'04	5.97563 AU	conjunction	1803 Oct 10 12:32	16°♏14'42	1°06'04
morning rise	1798 May 06 08:56	6°♏02'54		minimum elong	1803 Oct 10 12:32	16°♏14'42	1°06'04
	1798 Jun 14 21:25	15°♏		morning rise	1803 Oct 23 07:29	19°♏00'55	
retrograde	1798 Sep 14 18:55	26°♏23'24			1803 Dec 18 06:57	0°♏	

retrograde	1804 Feb 20 12:23	5° \mathbb{M} 47'59		opposition	1809 Oct 13 15:06	19° Υ 51'56	-1°-36'-47
opposition	1804 Apr 21 06:38	0° \mathbb{M} 55'42	1°29'25	min. Earth dist.	1809 Oct 12 12:37	20° Υ 00'53	3.95466 AU
min. Earth dist.	1804 Apr 22 12:41	0° \mathbb{M} 46'06	4.43461 AU	direct	1809 Dec 10 11:43	14° Υ 57'20	
	1804 Apr 28 14:02	30° \mathbb{R} \mathbb{A}			1810 Mar 26 11:52	0° \mathbb{B}	
direct	1804 Jun 23 00:46	25° \mathbb{A} 54'17		evening set	1810 Apr 15 08:17	4° \mathbb{B} 38'50	
	1804 Aug 16 14:22	0° \mathbb{M}					
evening set	1804 Oct 27 04:04	13° \mathbb{M} 31'09		conjunction	1810 Apr 28 21:19	7° \mathbb{B} 52'50	0°-57'-7
	1804 Nov 02 22:05	15° \mathbb{M}		minimum elong	1810 Apr 28 21:21	7° \mathbb{B} 52'52	0°57'09
max. Earth dist.	1804 Nov 06 20:33	15° \mathbb{M} 52'03	6.39780 AU	max. Earth dist.	1810 Apr 30 23:30	8° \mathbb{B} 22'51	5.97979 AU
				morning rise	1810 May 12 13:01	11° \mathbb{B} 08'09	
conjunction	1804 Nov 08 21:16	16° \mathbb{M} 18'55	0°52'39		1810 May 29 01:59	15° \mathbb{B}	
minimum elong	1804 Nov 08 21:17	16° \mathbb{M} 18'56	0°52'38		1810 Aug 22 03:09	0° \mathbb{I}	
morning rise	1804 Nov 21 12:32	19° \mathbb{M} 05'53		retrograde	1810 Sep 20 18:32	1° \mathbb{I} 24'49	
	1805 Jan 14 20:00	0° \mathbb{A}			1810 Oct 20 02:21	30° \mathbb{R} \mathbb{B}	
retrograde	1805 Mar 23 04:33	6° \mathbb{A} 19'15		min. Earth dist.	1810 Nov 17 20:25	26° \mathbb{B} 31'28	4.02662 AU
opposition	1805 May 23 02:27	1° \mathbb{A} 27'21	0°58'33	opposition	1810 Nov 19 06:47	26° \mathbb{B} 19'45	-1°-5'-55
min. Earth dist.	1805 May 24 15:10	1° \mathbb{A} 15'39	4.34704 AU	direct	1811 Jan 16 09:59	21° \mathbb{B} 22'29	
	1805 Jun 03 16:42	30° \mathbb{R} \mathbb{M}			1811 Apr 03 15:36	0° \mathbb{I}	
direct	1805 Jul 24 11:57	26° \mathbb{M} 27'49		evening set	1811 May 22 17:27	10° \mathbb{I} 38'55	
	1805 Sep 12 07:20	0° \mathbb{A}					
evening set	1805 Nov 27 02:25	14° \mathbb{A} 27'17		conjunction	1811 Jun 05 11:24	13° \mathbb{I} 50'14	0°-27'-25
max. Earth dist.	1805 Dec 07 17:44	16° \mathbb{A} 51'27	6.28366 AU	minimum elong	1811 Jun 05 11:26	13° \mathbb{I} 50'15	0°27'27
				max. Earth dist.	1811 Jun 07 17:59	14° \mathbb{I} 21'55	6.08772 AU
conjunction	1805 Dec 09 18:17	17° \mathbb{A} 18'58	0°24'00	morning rise	1811 Jun 19 06:45	17° \mathbb{I} 01'58	
minimum elong	1805 Dec 09 18:18	17° \mathbb{A} 18'59	0°24'01		1811 Aug 20 15:27	0° \mathbb{B}	
morning rise	1805 Dec 22 09:09	20° \mathbb{A} 10'27		retrograde	1811 Oct 25 06:34	6° \mathbb{B} 16'12	
	1806 Feb 06 22:43	0° \mathbb{B}		opposition	1811 Dec 23 20:45	1° \mathbb{B} 12'10	0°-12'-24
retrograde	1806 Apr 25 19:26	8° \mathbb{B} 15'39		min. Earth dist.	1811 Dec 22 13:30	1° \mathbb{B} 22'47	4.15810 AU
opposition	1806 Jun 25 17:27	3° \mathbb{B} 22'32	0°08'42		1812 Jan 01 19:40	30° \mathbb{R} \mathbb{I}	
min. Earth dist.	1806 Jun 27 00:43	3° \mathbb{B} 12'31	4.21276 AU	direct	1812 Feb 20 23:00	26° \mathbb{I} 11'58	
	1806 Jul 24 18:51	30° \mathbb{R} \mathbb{A}		asc. node	1812 Mar 19 11:18	27° \mathbb{I} 24'40	
direct	1806 Aug 26 01:23	28° \mathbb{A} 25'28			1812 Apr 11 02:22	0° \mathbb{B}	
desc. node	1806 Aug 26 12:36	28° \mathbb{A} 25'29		evening set	1812 Jun 26 17:24	14° \mathbb{B} 50'28	
	1806 Sep 27 03:19	0° \mathbb{B}					
evening set	1806 Dec 29 08:05	17° \mathbb{B} 00'13		conjunction	1812 Jul 10 10:31	17° \mathbb{B} 55'01	0°10'49
max. Earth dist.	1807 Jan 09 14:22	19° \mathbb{B} 37'53	6.14048 AU	minimum elong	1812 Jul 10 10:30	17° \mathbb{B} 55'00	0°10'49
				behind sun begin	1812 Jul 10 04:15	17° \mathbb{B} 51'31	
conjunction	1807 Jan 11 01:20	19° \mathbb{B} 58'21	0°-13'-13	behind sun end	1812 Jul 10 16:45	17° \mathbb{B} 58'30	
minimum elong	1807 Jan 11 01:19	19° \mathbb{B} 58'21	0°13'15	max. Earth dist.	1812 Jul 12 00:50	18° \mathbb{B} 16'32	6.23177 AU
behind sun begin	1807 Jan 10 20:31	19° \mathbb{B} 55'33		morning rise	1812 Jul 24 03:03	20° \mathbb{B} 58'58	
behind sun end	1807 Jan 11 06:08	20° \mathbb{B} 01'09			1812 Sep 04 23:27	0° \mathbb{Q}	
morning rise	1807 Jan 23 19:17	22° \mathbb{B} 57'07		retrograde	1812 Nov 25 14:06	9° \mathbb{Q} 04'27	
	1807 Feb 24 03:40	0° \mathbb{A}		opposition	1813 Jan 24 08:42	4° \mathbb{Q} 03'35	0°41'47
retrograde	1807 May 31 20:42	12° \mathbb{A} 10'15		min. Earth dist.	1813 Jan 23 16:03	4° \mathbb{Q} 09'09	4.30086 AU
opposition	1807 Jul 31 11:00	7° \mathbb{A} 14'26	0°-47'-23		1813 Feb 28 23:49	30° \mathbb{R} \mathbb{B}	
min. Earth dist.	1807 Aug 01 03:10	7° \mathbb{A} 09'11	4.07120 AU	direct	1813 Mar 25 20:37	29° \mathbb{B} 01'21	
direct	1807 Sep 29 09:47	2° \mathbb{A} 19'40			1813 Apr 20 00:03	0° \mathbb{Q}	
	1808 Jan 04 04:38	15° \mathbb{A}			1813 Jul 21 04:39	15° \mathbb{Q}	
evening set	1808 Feb 01 13:07	21° \mathbb{A} 33'09		evening set	1813 Jul 30 18:20	17° \mathbb{Q} 03'59	
conjunction	1808 Feb 14 10:54	24° \mathbb{A} 38'41	0°-47'-32	conjunction	1813 Aug 13 05:43	20° \mathbb{Q} 00'35	0°43'56
minimum elong	1808 Feb 14 10:51	24° \mathbb{A} 38'40	0°47'33	minimum elong	1813 Aug 13 05:41	20° \mathbb{Q} 00'34	0°43'56
max. Earth dist.	1808 Feb 14 03:28	24° \mathbb{A} 34'14	6.01345 AU	max. Earth dist.	1813 Aug 13 18:13	20° \mathbb{Q} 07'26	6.36220 AU
morning rise	1808 Feb 27 10:43	27° \mathbb{A} 45'33		morning rise	1813 Aug 26 14:52	22° \mathbb{Q} 55'56	
	1808 Mar 07 21:43	0° \mathbb{H}			1813 Sep 29 11:56	0° \mathbb{H}	
retrograde	1808 Jul 07 17:04	18° \mathbb{H} 01'03		retrograde	1813 Dec 26 05:53	10° \mathbb{H} 08'56	
opposition	1808 Sep 05 20:22	13° \mathbb{H} 01'30	-1°-29'-14	opposition	1814 Feb 24 09:29	5° \mathbb{H} 11'50	1°20'40
min. Earth dist.	1808 Sep 05 13:54	13° \mathbb{H} 03'39	3.97198 AU	min. Earth dist.	1814 Feb 24 09:56	5° \mathbb{H} 11'41	4.41005 AU
direct	1808 Nov 03 09:49	8° \mathbb{H} 07'55		direct	1814 Apr 27 02:21	0° \mathbb{H} 08'53	
evening set	1809 Mar 08 19:41	27° \mathbb{H} 48'13		evening set	1814 Aug 31 23:03	17° \mathbb{H} 47'10	
	1809 Mar 17 21:48	0° \mathbb{Y}		max. Earth dist.	1814 Sep 13 11:22	20° \mathbb{H} 29'08	6.44172 AU
conjunction	1809 Mar 22 00:29	0° \mathbb{Y} 59'47	-1°-5'-5	conjunction	1814 Sep 14 02:41	20° \mathbb{H} 37'25	1°03'20
minimum elong	1809 Mar 22 00:28	0° \mathbb{Y} 59'47	1°05'05	minimum elong	1814 Sep 14 02:40	20° \mathbb{H} 37'24	1°03'19
max. Earth dist.	1809 Mar 23 00:57	1° \mathbb{Y} 14'36	5.95093 AU	morning rise	1814 Sep 27 03:28	23° \mathbb{H} 26'14	
morning rise	1809 Apr 04 08:31	4° \mathbb{Y} 13'05			1814 Oct 28 20:14	0° \mathbb{A}	
retrograde	1809 Aug 14 20:27	24° \mathbb{Y} 55'13		retrograde	1815 Jan 25 08:50	10° \mathbb{A} 12'44	

opposition	1815 Mar 26 20:20	5°♄18'48	1°36'21	minimum elong	1821 Mar 27 07:19	6°♃18'46	1°05'33
min. Earth dist.	1815 Mar 27 15:06	5°♄12'45	4.45622 AU	max. Earth dist.	1821 Mar 28 13:43	6°♃37'11	5.94773 AU
direct	1815 May 28 10:02	0°♄16'16		morning rise	1821 Apr 09 16:25	9°♃32'44	
evening set	1815 Oct 01 21:50	17°♄46'04			1821 Aug 07 20:11	0°♄	
max. Earth dist.	1815 Oct 13 04:43	20°♄12'39	6.45031 AU	retrograde	1821 Aug 20 05:48	0°♄15'10	
					1821 Sep 01 12:32	30°♄	
conjunction	1815 Oct 14 18:47	20°♄33'19	1°05'12	opposition	1821 Oct 18 21:41	25°♃11'34	-1°-34'-33
minimum elong	1815 Oct 14 18:47	20°♄33'19	1°05'13	min. Earth dist.	1821 Oct 17 17:47	25°♃21'01	3.95870 AU
morning rise	1815 Oct 27 13:08	23°♄19'20		direct	1821 Dec 15 18:23	20°♃16'45	
	1815 Nov 28 16:12	0°♄			1822 Mar 07 10:47	0°♄	
retrograde	1816 Feb 24 20:22	10°♄07'50		evening set	1822 Apr 20 16:03	9°♄56'27	
opposition	1816 Apr 25 15:22	5°♄15'39	1°26'27				
min. Earth dist.	1816 Apr 26 23:07	5°♄05'30	4.42762 AU	conjunction	1822 May 04 05:57	13°♄10'24	0°-54'00
direct	1816 Jun 27 09:41	0°♄14'22		minimum elong	1822 May 04 05:59	13°♄10'25	0°54'00
	1816 Oct 18 02:56	15°♄		max. Earth dist.	1822 May 06 10:21	13°♄41'37	5.99070 AU
evening set	1816 Oct 31 10:36	17°♄53'00			1822 May 11 22:08	15°♄	
max. Earth dist.	1816 Nov 11 02:56	20°♄14'12	6.38612 AU	morning rise	1822 May 17 22:36	16°♄25'35	
					1822 Jul 20 13:49	0°♄	
conjunction	1816 Nov 13 03:35	20°♄41'06	0°49'25	retrograde	1822 Sep 25 18:03	6°♄34'55	
minimum elong	1816 Nov 13 03:37	20°♄41'07	0°49'25	min. Earth dist.	1822 Nov 22 19:14	1°♄42'05	4.04337 AU
morning rise	1816 Nov 25 18:26	23°♄28'25		opposition	1822 Nov 24 07:06	1°♄29'51	0°-59'-13
	1816 Dec 26 11:45	0°♄			1822 Dec 05 11:10	30°♄	
retrograde	1817 Mar 27 16:48	10°♄47'11		direct	1823 Jan 21 11:38	26°♄32'12	
opposition	1817 May 27 15:52	5°♄55'13	0°52'29		1823 Mar 09 07:27	0°♄	
min. Earth dist.	1817 May 29 04:15	5°♄43'38	4.33120 AU	evening set	1823 May 27 21:49	15°♄43'15	
direct	1817 Jul 28 22:27	0°♄56'01					
evening set	1817 Dec 01 11:51	18°♄59'36		conjunction	1823 Jun 10 15:56	18°♄53'42	0°-22'-13
max. Earth dist.	1817 Dec 12 03:05	21°♄24'24	6.26485 AU	minimum elong	1823 Jun 10 15:57	18°♄53'43	0°22'14
				max. Earth dist.	1823 Jun 12 20:58	19°♄24'20	6.10886 AU
conjunction	1817 Dec 14 03:36	21°♄52'02	0°19'06	morning rise	1823 Jun 24 11:10	22°♄04'23	
minimum elong	1817 Dec 14 03:37	21°♄52'02	0°19'07		1823 Jul 30 14:21	0°♄	
morning rise	1817 Dec 26 18:49	24°♄44'24		retrograde	1823 Oct 29 22:30	11°♄07'50	
	1818 Jan 19 13:26	0°♄		min. Earth dist.	1823 Dec 27 07:59	6°♄13'59	4.18122 AU
retrograde	1818 Apr 30 17:09	12°♄58'28		opposition	1823 Dec 28 13:05	6°♄04'07	0°-4'-24
opposition	1818 Jun 30 13:53	8°♄05'04	0°00'50	asc. node	1824 Jan 28 11:08	2°♄22'17	
min. Earth dist.	1818 Jul 01 20:19	7°♄55'18	4.19201 AU	direct	1824 Feb 25 21:10	1°♄03'33	
desc. node	1818 Jul 06 10:43	7°♄20'01		evening set	1824 Jul 01 14:24	19°♄35'29	
direct	1818 Aug 30 18:21	3°♄08'18					
evening set	1819 Jan 02 23:24	21°♄48'49		conjunction	1824 Jul 15 06:59	22°♄38'47	0°15'59
max. Earth dist.	1819 Jan 14 09:24	24°♄29'20	6.11974 AU	minimum elong	1824 Jul 15 06:58	22°♄38'46	0°15'58
				max. Earth dist.	1824 Jul 16 19:19	22°♄59'04	6.25497 AU
conjunction	1819 Jan 15 17:14	24°♄48'03	0°-18'-30	morning rise	1824 Jul 28 22:32	25°♄41'19	
minimum elong	1819 Jan 15 17:13	24°♄48'02	0°18'32		1824 Aug 17 18:20	0°♄	
morning rise	1819 Jan 28 11:47	27°♄47'59		retrograde	1824 Nov 29 20:45	13°♄37'01	
	1819 Feb 06 23:20	0°♄		opposition	1825 Jan 28 17:53	8°♄36'39	0°48'18
	1819 Apr 29 05:13	15°♄		min. Earth dist.	1825 Jan 28 02:40	8°♄41'44	4.32221 AU
retrograde	1819 Jun 06 01:20	17°♄11'10		direct	1825 Mar 30 09:46	3°♄34'16	
	1819 Jul 14 03:07	15°♄			1825 Jul 04 04:10	15°♄	
opposition	1819 Aug 05 14:11	12°♄14'59	0°-54'-38	evening set	1825 Aug 04 07:39	21°♄31'29	
min. Earth dist.	1819 Aug 06 03:24	12°♄10'40	4.05240 AU				
direct	1819 Oct 04 07:08	7°♄20'31		conjunction	1825 Aug 17 17:49	24°♄26'53	0°47'32
	1819 Dec 15 14:28	15°♄		minimum elong	1825 Aug 17 17:47	24°♄26'52	0°47'32
evening set	1820 Feb 06 12:20	26°♄39'34		max. Earth dist.	1825 Aug 18 01:09	24°♄30'53	6.37994 AU
				morning rise	1825 Aug 31 01:48	27°♄21'00	
conjunction	1820 Feb 19 10:51	29°♄46'09	0°-51'-18		1825 Sep 12 10:29	0°♄	
minimum elong	1820 Feb 19 10:48	29°♄46'07	0°51'19	retrograde	1825 Dec 30 10:15	14°♄27'47	
max. Earth dist.	1820 Feb 19 06:39	29°♄43'37	5.99826 AU	opposition	1826 Feb 28 14:31	9°♄31'12	1°24'14
	1820 Feb 20 09:51	0°♄		min. Earth dist.	1826 Feb 28 18:46	9°♄29'48	4.42303 AU
morning rise	1820 Mar 03 11:49	2°♄54'11		direct	1826 May 01 12:42	4°♄28'12	
retrograde	1820 Jul 13 01:21	23°♄17'01		evening set	1826 Sep 05 06:25	22°♄03'36	
opposition	1820 Sep 11 03:46	18°♄16'56	-1°-32'-42				
min. Earth dist.	1820 Sep 10 17:50	18°♄20'14	3.96222 AU	conjunction	1826 Sep 18 09:04	24°♄53'09	1°04'37
direct	1820 Nov 08 13:23	13°♄23'22		minimum elong	1826 Sep 18 09:03	24°♄53'09	1°04'37
	1821 Mar 01 00:28	0°♄		max. Earth dist.	1826 Sep 17 13:40	24°♄42'40	6.44874 AU
evening set	1821 Mar 14 01:10	3°♄06'27		morning rise	1826 Oct 01 08:47	27°♄41'17	
					1826 Oct 12 05:26	0°♄	
conjunction	1821 Mar 27 07:19	6°♄18'46	-1°-5'-33	retrograde	1827 Jan 29 10:51	14°♄26'02	

opposition	1827 Mar 31 00:32	9°♂32'22	1°36'27	conjunction	1833 Apr 01 16:25	11°♀42'29	-1°-5'-27
min. Earth dist.	1827 Mar 31 21:20	9°♂25'40	4.45709 AU	minimum elong	1833 Apr 01 16:25	11°♀42'29	1°05'28
direct	1827 Jun 01 15:21	4°♂29'53		max. Earth dist.	1833 Apr 03 02:43	12°♀03'14	5.94878 AU
evening set	1827 Oct 06 02:23	21°♂59'57		morning rise	1833 Apr 15 02:51	14°♀56'56	
max. Earth dist.	1827 Oct 17 06:41	24°♂25'21	6.44482 AU		1833 Jun 24 23:06	0°♂	
				retrograde	1833 Aug 25 12:20	5°♂37'00	
conjunction	1827 Oct 18 22:41	24°♂47'07	1°04'01	min. Earth dist.	1833 Oct 22 21:34	0°♂43'28	3.96753 AU
minimum elong	1827 Oct 18 22:42	24°♂47'08	1°04'02	opposition	1833 Oct 24 04:32	0°♂32'58	-1°-31'-27
morning rise	1827 Oct 31 16:17	27°♂33'06			1833 Oct 28 05:54	30°♂♀	
	1827 Nov 12 02:30	0°♂		direct	1833 Dec 21 00:26	25°♀37'47	
retrograde	1828 Feb 29 03:01	14°♂24'30			1834 Feb 11 10:20	0°♂	
opposition	1828 Apr 29 22:45	9°♂32'27	1°23'06		1834 Apr 25 00:52	15°♂	
min. Earth dist.	1828 May 01 08:25	9°♂21'44	4.41603 AU	evening set	1834 Apr 26 00:15	15°♂13'48	
direct	1828 Jul 01 16:59	4°♂31'24					
	1828 Oct 01 08:23	15°♂		conjunction	1834 May 09 14:59	18°♂27'24	0°-50'-24
evening set	1828 Nov 04 16:07	22°♂13'21		minimum elong	1834 May 09 15:02	18°♂27'25	0°50'25
max. Earth dist.	1828 Nov 15 05:21	24°♂33'29	6.36911 AU	max. Earth dist.	1834 May 11 20:39	18°♂59'14	6.00615 AU
				morning rise	1834 May 23 08:17	21°♂42'07	
conjunction	1828 Nov 17 08:41	25°♂01'59	0°45'59		1834 Jun 29 04:15	0°♂	
minimum elong	1828 Nov 17 08:43	25°♂02'00	0°45'58	retrograde	1834 Sep 30 17:25	11°♂42'21	
morning rise	1828 Nov 29 23:36	27°♂49'57		min. Earth dist.	1834 Nov 27 19:42	6°♂49'11	4.06327 AU
	1828 Dec 09 20:46	0°♂		opposition	1834 Nov 29 06:39	6°♂37'15	0°-52'-4
retrograde	1829 Apr 01 07:14	15°♂16'09		direct	1835 Jan 26 15:22	1°♂39'09	
opposition	1829 Jun 01 05:39	10°♂24'03	0°46'10	evening set	1835 Jun 02 00:53	20°♂43'50	
min. Earth dist.	1829 Jun 02 18:14	10°♂12'23	4.30974 AU				
direct	1829 Aug 02 09:19	5°♂25'05		conjunction	1835 Jun 15 19:12	23°♂53'19	0°-16'-52
evening set	1829 Dec 05 22:01	23°♂34'43		minimum elong	1835 Jun 15 19:13	23°♂53'20	0°16'52
max. Earth dist.	1829 Dec 16 15:49	26°♂01'43	6.24078 AU	max. Earth dist.	1835 Jun 18 00:06	24°♂23'42	6.13146 AU
				morning rise	1835 Jun 29 14:08	27°♂02'51	
conjunction	1829 Dec 18 14:07	26°♂28'13	0°14'06		1835 Jul 12 16:49	0°♂	
minimum elong	1829 Dec 18 14:08	26°♂28'14	0°14'06	retrograde	1835 Nov 03 12:29	15°♂55'23	
behind sun begin	1829 Dec 18 10:01	26°♂25'53		asc. node	1835 Dec 08 00:16	14°♂00'54	
behind sun end	1829 Dec 18 18:14	26°♂30'34		min. Earth dist.	1836 Jan 01 00:11	11°♂01'35	4.20424 AU
morning rise	1829 Dec 31 05:33	29°♂21'43		opposition	1836 Jan 02 04:13	10°♂52'06	0°03'34
	1830 Jan 03 00:56	0°♂		direct	1836 Mar 01 16:12	5°♂51'16	
retrograde	1830 May 05 16:28	17°♂46'26		evening set	1836 Jul 06 10:28	24°♂17'01	
desc. node	1830 May 16 12:35	17°♂35'25					
opposition	1830 Jul 05 12:01	12°♂52'46	0°-7'-6	conjunction	1836 Jul 20 02:10	27°♂19'03	0°21'02
min. Earth dist.	1830 Jul 06 16:38	12°♂43'34	4.16714 AU	minimum elong	1836 Jul 20 02:09	27°♂19'03	0°21'02
direct	1830 Sep 04 11:04	7°♂56'22		max. Earth dist.	1836 Jul 21 09:13	27°♂36'20	6.27657 AU
evening set	1831 Jan 07 17:21	26°♂44'05			1836 Aug 01 04:09	0°♂	
max. Earth dist.	1831 Jan 19 06:22	29°♂27'16	6.09623 AU	morning rise	1836 Aug 02 16:56	0°♂20'18	
					1836 Oct 19 20:38	15°♂	
conjunction	1831 Jan 20 11:37	29°♂44'33	0°-23'-43	retrograde	1836 Dec 04 05:11	18°♂07'18	
minimum elong	1831 Jan 20 11:36	29°♂44'32	0°23'43		1837 Jan 18 15:51	15°♂♂	
	1831 Jan 21 13:48	0°♂		opposition	1837 Feb 02 02:47	13°♂07'30	0°54'33
morning rise	1831 Feb 02 07:07	2°♂45'52		min. Earth dist.	1837 Feb 01 15:08	13°♂11'23	4.34080 AU
	1831 Mar 31 04:52	15°♂		direct	1837 Apr 04 00:29	8°♂04'57	
retrograde	1831 Jun 11 09:17	22°♂20'06			1837 Jun 14 17:06	15°♂	
opposition	1831 Aug 10 20:26	17°♂23'21	-1°-1'-35	evening set	1837 Aug 08 20:38	25°♂57'56	
min. Earth dist.	1831 Aug 11 05:50	17°♂20'16	4.03251 AU				
	1831 Aug 29 22:56	15°♂♂		conjunction	1837 Aug 22 05:55	28°♂52'21	0°50'54
direct	1831 Oct 09 07:57	12°♂29'05		minimum elong	1837 Aug 22 05:53	28°♂52'20	0°50'53
	1831 Nov 17 23:53	15°♂		max. Earth dist.	1837 Aug 22 10:17	28°♂54'43	6.39420 AU
	1832 Feb 03 15:33	0°♂			1837 Aug 27 10:12	0°♂	
evening set	1832 Feb 11 14:29	1°♂53'48		morning rise	1837 Sep 04 12:35	1°♂45'24	
				retrograde	1838 Jan 03 13:45	18°♂47'22	
conjunction	1832 Feb 24 14:07	5°♂01'29	0°-54'-42	opposition	1838 Mar 04 20:18	13°♂51'18	1°27'26
minimum elong	1832 Feb 24 14:05	5°♂01'27	0°54'43	min. Earth dist.	1838 Mar 05 02:21	13°♂49'19	4.43232 AU
max. Earth dist.	1832 Feb 24 16:48	5°♂03'05	5.98401 AU	direct	1838 May 05 20:36	8°♂48'22	
morning rise	1832 Mar 08 16:04	8°♂10'37		evening set	1838 Sep 09 14:36	26°♂22'05	
retrograde	1832 Jul 18 13:49	28°♂39'43					
opposition	1832 Sep 16 13:45	23°♂39'03	-1°-35'-23	conjunction	1838 Sep 22 16:09	29°♂11'05	1°05'36
min. Earth dist.	1832 Sep 16 00:59	23°♂43'19	3.95545 AU	minimum elong	1838 Sep 22 16:08	29°♂11'05	1°05'36
direct	1832 Nov 13 20:37	18°♂45'28		max. Earth dist.	1838 Sep 21 16:33	28°♂58'20	6.45232 AU
	1833 Feb 10 13:50	0°♂			1838 Sep 26 10:38	0°♂	
evening set	1833 Mar 19 09:15	8°♂29'43		morning rise	1838 Oct 05 14:58	1°♂58'43	

retrograde	1839 Feb 02 17:16	18°♄43'00		direct	1844 Nov 19 01:06	24°♄03'26	
opposition	1839 Apr 04 07:01	13°♄49'43	1°36'05		1845 Jan 19 21:21	0°♄	
min. Earth dist.	1839 Apr 05 06:56	13°♄42'02	4.45487 AU	evening set	1845 Mar 24 14:46	13°♄46'52	
direct	1839 Jun 06 00:13	8°♄47'25					
evening set	1839 Oct 10 08:42	26°♄18'33		conjunction	1845 Apr 06 23:01	16°♄59'50	-1°-4'-49
max. Earth dist.	1839 Oct 21 09:17	28°♄42'18	6.43684 AU	minimum elong	1845 Apr 06 23:02	16°♄59'51	1°04'50
				max. Earth dist.	1845 Apr 08 13:13	17°♄22'54	5.95489 AU
conjunction	1839 Oct 23 04:23	29°♄05'47	1°02'28	morning rise	1845 Apr 20 10:24	20°♄14'25	
minimum elong	1839 Oct 23 04:24	29°♄05'48	1°02'28		1845 Jun 02 10:39	0°♄	
	1839 Oct 27 07:47	0°♄		retrograde	1845 Aug 30 15:40	10°♄50'17	
morning rise	1839 Nov 04 21:28	1°♄51'54		min. Earth dist.	1845 Oct 27 23:59	5°♄56'38	3.97975 AU
	1840 Jan 13 13:34	15°♄		opposition	1845 Oct 29 07:35	5°♄45'53	-1°-27'-42
retrograde	1840 Mar 04 12:13	18°♄47'08		direct	1845 Dec 26 05:11	0°♄50'19	
	1840 Apr 25 19:45	15°♄			1846 Apr 07 21:55	15°♄	
opposition	1840 May 04 08:51	13°♄55'11	1°19'12	evening set	1846 May 01 04:22	20°♄21'40	
min. Earth dist.	1840 May 05 19:01	13°♄44'18	4.40287 AU				
direct	1840 Jul 06 01:03	8°♄54'24		conjunction	1846 May 14 19:55	23°♄34'49	0°-46'-32
	1840 Sep 11 10:04	15°♄		minimum elong	1846 May 14 19:57	23°♄34'51	0°46'33
evening set	1840 Nov 08 23:58	26°♄40'06		max. Earth dist.	1846 May 17 03:35	24°♄07'42	6.02322 AU
max. Earth dist.	1840 Nov 19 14:03	29°♄01'15	6.35191 AU	morning rise	1846 May 28 13:39	26°♄48'56	
					1846 Jun 11 08:00	0°♄	
conjunction	1840 Nov 21 16:24	29°♄29'21	0°42'10	retrograde	1846 Oct 05 12:19	16°♄39'41	
minimum elong	1840 Nov 21 16:26	29°♄29'22	0°42'10	min. Earth dist.	1846 Dec 02 14:56	11°♄46'33	4.08329 AU
	1840 Nov 23 23:20	0°♄		opposition	1846 Dec 04 01:39	11°♄34'43	0°-44'-48
morning rise	1840 Dec 04 07:07	2°♄17'58		direct	1847 Jan 31 13:21	6°♄36'13	
retrograde	1841 Apr 06 00:25	19°♄51'47		evening set	1847 Jun 07 00:05	25°♄34'54	
opposition	1841 Jun 05 22:26	14°♄59'40	0°39'21				
min. Earth dist.	1841 Jun 07 10:54	14°♄48'03	4.28950 AU	conjunction	1847 Jun 20 18:10	28°♄43'22	0°-11'-35
direct	1841 Aug 06 22:53	10°♄01'09		minimum elong	1847 Jun 20 18:11	28°♄43'23	0°11'36
evening set	1841 Dec 10 10:33	28°♄16'18		behind sun begin	1847 Jun 20 12:20	28°♄40'03	
	1841 Dec 17 23:40	0°♄		behind sun end	1847 Jun 21 00:02	28°♄46'43	
max. Earth dist.	1841 Dec 21 05:05	0°♄44'30	6.21930 AU	max. Earth dist.	1847 Jun 22 19:05	29°♄11'20	6.15254 AU
					1847 Jun 26 08:18	0°♄	
conjunction	1841 Dec 23 02:42	1°♄10'44	0°08'52	morning rise	1847 Jul 04 12:58	1°♄51'51	
minimum elong	1841 Dec 23 02:42	1°♄10'44	0°08'51	asc. node	1847 Oct 18 19:44	19°♄54'51	
behind sun begin	1841 Dec 22 19:49	1°♄06'48		retrograde	1847 Nov 07 23:09	20°♄34'29	
behind sun end	1841 Dec 23 09:36	1°♄14'41		opposition	1848 Jan 06 15:39	15°♄31'36	0°11'14
morning rise	1842 Jan 04 18:42	4°♄05'20		min. Earth dist.	1848 Jan 05 14:09	15°♄40'13	4.22442 AU
desc. node	1842 Mar 25 18:56	19°♄31'21		direct	1848 Mar 06 08:49	10°♄30'23	
retrograde	1842 May 10 18:00	22°♄40'06		evening set	1848 Jul 11 02:56	28°♄51'10	
opposition	1842 Jul 10 12:37	17°♄46'05	0°-15'-12		1848 Jul 16 07:39	0°♄	
min. Earth dist.	1842 Jul 11 14:15	17°♄37'50	4.14613 AU				
direct	1842 Sep 09 06:08	12°♄50'05		conjunction	1848 Jul 24 18:07	1°♄52'10	0°25'49
	1843 Jan 05 03:37	0°♄		minimum elong	1848 Jul 24 18:05	1°♄52'10	0°25'49
evening set	1843 Jan 12 12:39	1°♄43'31		max. Earth dist.	1848 Jul 25 22:30	2°♄07'55	6.29441 AU
max. Earth dist.	1843 Jan 24 08:03	4°♄31'04	6.07787 AU	morning rise	1848 Aug 07 07:46	4°♄52'14	
					1848 Sep 25 20:32	15°♄	
conjunction	1843 Jan 25 07:37	4°♄45'02	0°-28'-50	retrograde	1848 Dec 08 10:52	22°♄32'04	
minimum elong	1843 Jan 25 07:35	4°♄45'01	0°28'51	opposition	1849 Feb 06 09:22	17°♄32'51	1°00'19
morning rise	1843 Feb 07 03:42	7°♄47'26		min. Earth dist.	1849 Feb 05 23:51	17°♄36'00	4.35513 AU
	1843 Mar 10 19:26	15°♄			1849 Feb 26 13:39	15°♄	
retrograde	1843 Jun 16 17:50	27°♄30'38		direct	1849 Apr 08 10:23	12°♄30'11	
opposition	1843 Aug 16 03:02	22°♄33'24	-1°-8'-6		1849 May 19 18:07	15°♄	
min. Earth dist.	1843 Aug 16 09:39	22°♄31'14	4.01881 AU		1849 Aug 11 18:04	0°♄	
direct	1843 Oct 14 10:16	17°♄39'26		evening set	1849 Aug 13 07:39	0°♄20'15	
	1844 Jan 17 00:06	0°♄					
evening set	1844 Feb 16 16:40	7°♄07'29		conjunction	1849 Aug 26 15:44	3°♄13'50	0°53'54
				minimum elong	1849 Aug 26 15:42	3°♄13'49	0°53'53
conjunction	1844 Feb 29 17:03	10°♄15'54	0°-57'-40	max. Earth dist.	1849 Aug 26 14:29	3°♄13'09	6.40389 AU
minimum elong	1844 Feb 29 17:01	10°♄15'52	0°57'40	morning rise	1849 Sep 08 21:28	6°♄06'05	
max. Earth dist.	1844 Feb 29 23:41	10°♄19'54	5.97614 AU	retrograde	1850 Jan 07 19:03	23°♄04'47	
morning rise	1844 Mar 13 20:12	13°♄25'53		opposition	1850 Mar 09 01:25	18°♄09'10	1°30'06
	1844 Jun 02 15:16	0°♄		min. Earth dist.	1850 Mar 09 10:52	18°♄06'05	4.43714 AU
retrograde	1844 Jul 23 21:24	3°♄58'22		direct	1850 May 10 05:11	13°♄06'13	
	1844 Sep 14 00:03	30°♄			1850 Sep 10 20:19	0°♄	
opposition	1844 Sep 21 21:17	28°♄57'08	-1°-37'-12	evening set	1850 Sep 13 22:04	0°♄39'28	
min. Earth dist.	1844 Sep 21 04:19	29°♄02'48	3.95465 AU				

conjunction	1850 Sep 26 22:53	3°♂28'09	1°06'12	morning rise	1856 Mar 18 22:36	18°♂35'42	
minimum elong	1850 Sep 26 22:53	3°♂28'09	1°06'13		1856 May 08 21:24	0°♀	
max. Earth dist.	1850 Sep 25 21:04	3°♂14'11	6.45193 AU	retrograde	1856 Jul 29 04:42	9°♀11'23	
morning rise	1850 Oct 09 20:39	6°♂15'27		min. Earth dist.	1856 Sep 26 07:57	4°♀15'53	3.95343 AU
retrograde	1851 Feb 06 22:07	23°♂00'20		opposition	1856 Sep 27 02:37	4°♀09'37	-1°-38'-16
opposition	1851 Apr 08 13:33	18°♂07'19	1°35'12		1856 Nov 03 09:42	30°♂	
min. Earth dist.	1851 Apr 09 14:17	17°♂59'22	4.44965 AU	direct	1856 Nov 24 05:21	29°♂15'46	
direct	1851 Jun 10 06:03	13°♂05'11			1856 Dec 14 22:54	0°♀	
	1851 Oct 11 16:55	0°♂		evening set	1857 Mar 29 18:56	18°♀58'59	
evening set	1851 Oct 14 15:22	0°♂38'04					
max. Earth dist.	1851 Oct 25 13:56	3°♂01'07	6.42719 AU	conjunction	1857 Apr 12 04:22	22°♀12'17	-1°-3'-42
				minimum elong	1857 Apr 12 04:23	22°♀12'17	1°03'42
conjunction	1851 Oct 27 10:23	3°♂25'25	1°00'34	max. Earth dist.	1857 Apr 13 22:27	22°♀37'37	5.95940 AU
minimum elong	1851 Oct 27 10:24	3°♂25'26	1°00'33	morning rise	1857 Apr 25 16:49	25°♀27'08	
morning rise	1851 Nov 09 03:01	6°♂11'44			1857 May 15 01:45	0°♂	
	1851 Dec 22 02:38	15°♂			1857 Aug 11 01:13	15°♂	
retrograde	1852 Mar 08 23:56	23°♂11'10		retrograde	1857 Sep 04 17:49	15°♂59'20	
opposition	1852 May 08 20:03	18°♂19'18	1°14'49		1857 Sep 29 05:13	15°♂	
min. Earth dist.	1852 May 10 07:42	18°♂07'57	4.38932 AU	min. Earth dist.	1857 Nov 01 23:56	11°♂05'55	3.98957 AU
	1852 Jun 06 09:59	15°♂		opposition	1857 Nov 03 08:45	10°♂54'46	-1°-23'-21
direct	1852 Jul 10 11:45	13°♂18'48		direct	1857 Dec 31 06:07	5°♂58'52	
	1852 Aug 13 11:55	15°♂			1858 Mar 19 23:29	15°♂	
	1852 Nov 08 05:16	0°♂		evening set	1858 May 06 08:15	25°♂27'02	
evening set	1852 Nov 13 08:13	1°♂07'56					
max. Earth dist.	1852 Nov 23 21:34	3°♂29'15	6.33548 AU	conjunction	1858 May 20 00:22	28°♂39'51	0°-42'-22
				minimum elong	1858 May 20 00:24	28°♂39'52	0°42'23
conjunction	1852 Nov 26 00:27	3°♂57'44	0°38'05	max. Earth dist.	1858 May 22 06:42	29°♂11'48	6.03724 AU
minimum elong	1852 Nov 26 00:29	3°♂57'45	0°38'05		1858 May 25 16:44	0°♂	
morning rise	1852 Dec 08 15:13	6°♂47'02		morning rise	1858 Jun 02 18:48	1°♂53'34	
retrograde	1853 Apr 10 17:11	24°♂28'04		retrograde	1858 Oct 10 06:34	21°♂36'14	
opposition	1853 Jun 10 15:42	19°♂35'41	0°32'16	min. Earth dist.	1858 Dec 07 10:23	16°♂43'00	4.09981 AU
min. Earth dist.	1853 Jun 12 02:22	19°♂24'38	4.27120 AU	opposition	1858 Dec 08 20:21	16°♂31'26	0°-37'-16
direct	1853 Aug 11 11:47	14°♂37'29		direct	1859 Feb 05 11:34	11°♂32'29	
	1853 Dec 01 21:44	0°♂			1859 Jun 10 00:21	0°♂	
evening set	1853 Dec 14 23:06	2°♂57'15		evening set	1859 Jun 11 23:39	0°♂26'44	
max. Earth dist.	1853 Dec 25 21:36	5°♂28'19	6.20063 AU				
				conjunction	1859 Jun 25 17:51	3°♂34'26	0°-6'-13
conjunction	1853 Dec 27 15:31	5°♂52'32	0°03'35	minimum elong	1859 Jun 25 17:52	3°♂34'27	0°06'15
minimum elong	1853 Dec 27 15:31	5°♂52'32	0°03'35	behind sun begin	1859 Jun 25 09:59	3°♂29'58	
behind sun begin	1853 Dec 27 07:37	5°♂47'59		behind sun end	1859 Jun 26 01:46	3°♂38'55	
behind sun end	1853 Dec 27 23:26	5°♂57'05		max. Earth dist.	1859 Jun 27 17:32	4°♂01'35	6.17036 AU
morning rise	1854 Jan 09 07:45	8°♂48'02		morning rise	1859 Jul 09 12:10	6°♂41'56	
desc. node	1854 Feb 02 10:40	14°♂12'45		asc. node	1859 Aug 28 21:06	17°♂16'28	
retrograde	1854 May 15 19:44	27°♂31'35		retrograde	1859 Nov 12 12:26	25°♂16'02	
opposition	1854 Jul 15 12:28	22°♂37'12	0°-23'-11	min. Earth dist.	1860 Jan 10 04:50	20°♂21'34	4.24176 AU
min. Earth dist.	1854 Jul 16 12:41	22°♂29'23	4.12833 AU	opposition	1860 Jan 11 04:18	20°♂13'40	0°18'54
direct	1854 Sep 14 02:12	17°♂41'31		direct	1860 Mar 11 01:26	15°♂12'15	
	1854 Dec 19 03:08	0°♂			1860 Jun 29 19:23	0°♂	
evening set	1855 Jan 17 07:11	6°♂39'33		evening set	1860 Jul 15 21:08	3°♂29'04	
max. Earth dist.	1855 Jan 29 05:38	9°♂29'29	6.06232 AU				
				conjunction	1860 Jul 29 11:26	6°♂29'05	0°30'30
conjunction	1855 Jan 30 02:36	9°♂41'57	0°-33'-43	minimum elong	1860 Jul 29 11:24	6°♂29'04	0°30'31
minimum elong	1855 Jan 30 02:35	9°♂41'56	0°33'44	max. Earth dist.	1860 Jul 30 11:09	6°♂42'12	6.30990 AU
morning rise	1855 Feb 11 23:37	12°♂45'24		morning rise	1860 Aug 12 00:17	9°♂28'07	
	1855 Feb 21 12:53	15°♂			1860 Sep 06 22:20	15°♂	
	1855 May 11 15:20	0°♂		retrograde	1860 Dec 12 18:42	27°♂01'40	
retrograde	1855 Jun 21 22:16	2°♂36'24		opposition	1861 Feb 10 17:54	22°♂02'58	1°05'52
	1855 Aug 02 14:17	30°♂		min. Earth dist.	1861 Feb 10 10:52	22°♂05'18	4.36793 AU
opposition	1855 Aug 21 07:34	27°♂38'36	-1°-14'-2	direct	1861 Apr 12 22:37	17°♂00'14	
min. Earth dist.	1855 Aug 21 10:09	27°♂37'45	4.00711 AU		1861 Jul 26 02:13	0°♂	
direct	1855 Oct 19 09:36	22°♂44'47		evening set	1861 Aug 17 20:30	4°♂47'50	
	1855 Dec 28 01:40	0°♂					
evening set	1856 Feb 21 17:06	12°♂15'48		conjunction	1861 Aug 31 03:44	7°♂40'40	0°56'40
				minimum elong	1861 Aug 31 03:42	7°♂40'39	0°56'40
conjunction	1856 Mar 05 18:29	15°♂24'57	-1°00'-9	max. Earth dist.	1861 Aug 31 00:26	7°♂38'52	6.41335 AU
minimum elong	1856 Mar 05 18:27	15°♂24'56	1°00'10	morning rise	1861 Sep 13 08:10	10°♂32'04	
max. Earth dist.	1856 Mar 06 06:08	15°♂32'01	5.96928 AU	retrograde	1862 Jan 12 00:48	27°♂27'33	

opposition	1862 Mar 13 08:34	22° \mathring{M} 32'25	1°32'22			1867 Dec 01 03:45	0° \mathring{K}	
min. Earth dist.	1862 Mar 13 19:25	22° \mathring{M} 28'54	4.44305 AU	evening set		1868 Feb 26 13:38	17° \mathring{K} 13'47	
direct	1862 May 14 13:53	17° \mathring{M} 29'40						
	1862 Aug 25 06:02	0° \mathring{L}		conjunction		1868 Mar 10 16:02	20° \mathring{K} 23'42	-1°-2'-6
evening set	1862 Sep 18 07:06	5° \mathring{L} 01'49		minimum elong		1868 Mar 10 16:00	20° \mathring{K} 23'42	1°02'07
max. Earth dist.	1862 Sep 30 01:25	7° \mathring{L} 34'08	6.45400 AU	max. Earth dist.		1868 Mar 11 07:14	20° \mathring{K} 32'55	5.96234 AU
				morning rise		1868 Mar 23 21:15	23° \mathring{K} 35'15	
conjunction	1862 Oct 01 06:48	7° \mathring{L} 50'03	1°06'30			1868 Apr 20 07:31	0° \mathring{Y}	
minimum elong	1862 Oct 01 06:48	7° \mathring{L} 50'02	1°06'30	retrograde		1868 Aug 03 06:46	14° \mathring{Y} 13'56	
morning rise	1862 Oct 14 03:50	10° \mathring{L} 36'56		min. Earth dist.		1868 Oct 01 06:23	9° \mathring{Y} 18'45	3.95095 AU
retrograde	1863 Feb 11 06:35	27° \mathring{L} 21'41		opposition		1868 Oct 02 03:11	9° \mathring{Y} 11'46	-1°-38'-35
opposition	1863 Apr 12 21:57	22° \mathring{L} 28'56	1°33'50	direct		1868 Nov 29 02:46	4° \mathring{Y} 17'44	
min. Earth dist.	1863 Apr 14 00:50	22° \mathring{L} 20'19	4.44802 AU	evening set		1869 Apr 03 19:39	24° \mathring{Y} 01'41	
direct	1863 Jun 14 16:07	17° \mathring{L} 27'01						
	1863 Sep 25 06:45	0° \mathring{M}		conjunction		1869 Apr 17 06:05	27° \mathring{Y} 15'22	-1°-2'-10
evening set	1863 Oct 18 22:17	5° \mathring{M} 00'07		minimum elong		1869 Apr 17 06:06	27° \mathring{Y} 15'23	1°02'10
max. Earth dist.	1863 Oct 29 19:59	7° \mathring{M} 22'54	6.42208 AU	max. Earth dist.		1869 Apr 19 00:55	27° \mathring{Y} 41'09	5.96144 AU
						1869 Apr 28 16:24	0° \mathring{B}	
conjunction	1863 Oct 31 16:48	7° \mathring{M} 47'27	0°58'22	morning rise		1869 Apr 30 19:44	0° \mathring{B} 30'38	
minimum elong	1863 Oct 31 16:50	7° \mathring{M} 47'28	0°58'22			1869 Jul 07 20:48	15° \mathring{B}	
morning rise	1863 Nov 13 08:49	10° \mathring{M} 33'45		retrograde		1869 Sep 09 15:58	21° \mathring{B} 00'21	
	1863 Dec 04 03:35	15° \mathring{M}		min. Earth dist.		1869 Nov 06 20:51	16° \mathring{B} 07'03	3.99591 AU
retrograde	1864 Mar 13 08:57	27° \mathring{M} 35'54		opposition		1869 Nov 08 06:32	15° \mathring{B} 55'34	-1°-18'-36
opposition	1864 May 13 07:06	22° \mathring{M} 44'02	1°10'05			1869 Nov 15 02:42	15° \mathring{R} \mathring{B}	
min. Earth dist.	1864 May 14 17:59	22° \mathring{M} 32'55	4.38108 AU	direct		1870 Jan 05 05:00	10° \mathring{B} 59'15	
direct	1864 Jul 14 20:26	17° \mathring{M} 43'50				1870 Feb 24 11:14	15° \mathring{B}	
	1864 Oct 22 19:57	0° \mathring{J}				1870 May 09 13:21	0° \mathring{I}	
evening set	1864 Nov 17 15:35	5° \mathring{J} 34'31		evening set		1870 May 11 09:28	0° \mathring{I} 25'42	
max. Earth dist.	1864 Nov 28 05:42	7° \mathring{J} 56'39	6.32477 AU					
				conjunction		1870 May 25 02:28	3° \mathring{I} 38'25	0°-38'-1
conjunction	1864 Nov 30 07:30	8° \mathring{J} 24'37	0°33'54	minimum elong		1870 May 25 02:31	3° \mathring{I} 38'26	0°38'01
minimum elong	1864 Nov 30 07:32	8° \mathring{J} 24'38	0°33'53	max. Earth dist.		1870 May 27 09:56	4° \mathring{I} 10'57	6.04756 AU
morning rise	1864 Dec 12 22:10	11° \mathring{J} 14'19		morning rise		1870 Jun 07 21:13	6° \mathring{I} 51'49	
retrograde	1865 Apr 15 09:25	29° \mathring{J} 00'42		retrograde		1870 Oct 15 01:04	26° \mathring{I} 27'52	
opposition	1865 Jun 15 07:17	24° \mathring{J} 08'08	0°25'09	min. Earth dist.		1870 Dec 12 04:26	21° \mathring{I} 34'26	4.11289 AU
min. Earth dist.	1865 Jun 16 18:05	23° \mathring{J} 57'02	4.25840 AU	opposition		1870 Dec 13 13:15	21° \mathring{I} 23'16	0°-29'-42
direct	1865 Aug 16 01:29	19° \mathring{J} 10'14		direct		1871 Feb 10 07:40	16° \mathring{I} 23'58	
	1865 Nov 15 00:53	0° \mathring{Z}				1871 May 24 04:17	0° \mathring{S}	
desc. node	1865 Dec 15 05:33	6° \mathring{Z} 35'46		evening set		1871 Jun 16 22:15	5° \mathring{S} 14'57	
evening set	1865 Dec 19 09:01	7° \mathring{Z} 32'42						
max. Earth dist.	1865 Dec 30 08:28	10° \mathring{Z} 04'49	6.18680 AU	conjunction		1871 Jun 30 16:15	8° \mathring{S} 21'56	0°00'-53
				minimum elong		1871 Jun 30 16:15	8° \mathring{S} 21'56	0°00'54
conjunction	1866 Jan 01 01:34	10° \mathring{Z} 28'38	0°-1'-39	behind sun begin		1871 Jun 30 07:53	8° \mathring{S} 17'13	
minimum elong	1866 Jan 01 01:33	10° \mathring{Z} 28'37	0°01'39	behind sun end		1871 Jul 01 00:38	8° \mathring{S} 26'40	
behind sun begin	1865 Dec 31 17:33	10° \mathring{Z} 24'00		max. Earth dist.		1871 Jul 02 13:32	8° \mathring{S} 47'38	6.18513 AU
behind sun end	1866 Jan 01 09:33	10° \mathring{Z} 33'13		asc. node		1871 Jul 09 17:16	10° \mathring{S} 24'53	
morning rise	1866 Jan 13 18:14	13° \mathring{Z} 24'52		morning rise		1871 Jul 14 10:18	11° \mathring{S} 28'37	
	1866 Apr 12 00:17	0° \mathring{A}		retrograde		1871 Nov 16 22:42	29° \mathring{S} 55'03	
retrograde	1866 May 20 14:46	2° \mathring{A} 15'36		opposition		1872 Jan 15 15:59	24° \mathring{S} 53'04	0°26'17
	1866 Jun 28 14:28	30° \mathring{R} \mathring{Z}		min. Earth dist.		1872 Jan 14 17:30	25° \mathring{S} 00'38	4.25696 AU
opposition	1866 Jul 20 08:46	27° \mathring{Z} 20'46	0°-30'-43	direct		1872 Mar 15 16:25	19° \mathring{S} 51'21	
min. Earth dist.	1866 Jul 21 06:04	27° \mathring{Z} 13'53	4.11447 AU			1872 Jun 12 00:32	0° \mathring{O}	
direct	1866 Sep 18 17:30	22° \mathring{Z} 25'21		evening set		1872 Jul 20 14:32	8° \mathring{O} 04'40	
	1866 Nov 30 08:31	0° \mathring{A}						
evening set	1867 Jan 21 22:01	11° \mathring{A} 26'48		conjunction		1872 Aug 03 04:04	11° \mathring{O} 03'44	0°34'57
				minimum elong		1872 Aug 03 04:02	11° \mathring{O} 03'43	0°34'57
conjunction	1867 Feb 03 18:00	14° \mathring{A} 29'58	0°-38'-10	max. Earth dist.		1872 Aug 04 01:12	11° \mathring{O} 15'23	6.32445 AU
minimum elong	1867 Feb 03 17:58	14° \mathring{A} 29'57	0°38'11	morning rise		1872 Aug 16 15:48	14° \mathring{O} 01'43	
max. Earth dist.	1867 Feb 03 00:45	14° \mathring{A} 19'41	6.04965 AU			1872 Aug 21 02:48	15° \mathring{O}	
	1867 Feb 05 20:21	15° \mathring{A}				1872 Nov 16 06:43	0° \mathring{M}	
morning rise	1867 Feb 16 15:39	17° \mathring{A} 34'16		retrograde		1872 Dec 17 02:20	1° \mathring{M} 29'03	
	1867 Apr 14 21:48	0° \mathring{K}				1873 Jan 16 17:08	30° \mathring{R} \mathring{O}	
retrograde	1867 Jun 27 00:32	7° \mathring{K} 32'05		opposition		1873 Feb 15 02:05	26° \mathring{O} 30'50	1°10'57
opposition	1867 Aug 26 07:36	2° \mathring{K} 33'47	-1°-19'-12	min. Earth dist.		1873 Feb 14 21:19	26° \mathring{O} 32'25	4.38064 AU
min. Earth dist.	1867 Aug 26 08:46	2° \mathring{K} 33'24	3.99682 AU	direct		1873 Apr 17 10:55	21° \mathring{O} 28'01	
	1867 Sep 15 19:26	30° \mathring{R} \mathring{A}				1873 Jul 07 18:57	0° \mathring{M}	
direct	1867 Oct 24 07:22	27° \mathring{A} 39'59		evening set		1873 Aug 22 08:23	9° \mathring{M} 12'40	

conjunction	1873 Sep 04 14:26	12°♏04'39	0°59'04			1879 Jan 20 15:11	15°♏	
minimum elong	1873 Sep 04 14:24	12°♏04'38	0°59'05	evening set		1879 Jan 26 17:57	16°♏26'46	
max. Earth dist.	1873 Sep 04 06:56	12°♏00'35	6.42289 AU					
morning rise	1873 Sep 17 17:50	14°♏55'14		conjunction		1879 Feb 08 14:45	19°♏31'04	0°-42'-34
	1873 Dec 13 01:54	0°♏		minimum elong		1879 Feb 08 14:43	19°♏31'02	0°42'35
retrograde	1874 Jan 16 06:16	1°♏47'22		max. Earth dist.		1879 Feb 08 01:17	19°♏23'01	6.03204 AU
	1874 Feb 19 10:15	30°♏		morning rise		1879 Feb 21 13:21	22°♏36'34	
opposition	1874 Mar 17 15:09	26°♏52'33	1°34'05			1879 Mar 25 17:52	0°♏	
min. Earth dist.	1874 Mar 18 04:19	26°♏48'17	4.44879 AU	retrograde		1879 Jul 02 08:22	12°♏42'58	
direct	1874 May 18 23:10	21°♏49'47		opposition		1879 Aug 31 13:28	7°♏44'12	-1°-24'-4
	1874 Aug 07 00:52	0°♏		min. Earth dist.		1879 Aug 31 11:08	7°♏44'58	3.98364 AU
evening set	1874 Sep 22 14:49	9°♏20'40		direct		1879 Oct 29 07:47	2°♏50'34	
max. Earth dist.	1874 Oct 04 07:10	11°♏51'56	6.45520 AU	evening set		1880 Mar 02 16:46	22°♏28'14	
conjunction	1874 Oct 05 13:45	12°♏08'30	1°06'25	conjunction		1880 Mar 15 20:09	25°♏38'59	-1°-3'-41
minimum elong	1874 Oct 05 13:45	12°♏08'30	1°06'24	minimum elong		1880 Mar 15 20:09	25°♏38'59	1°03'42
morning rise	1874 Oct 18 09:42	14°♏54'58		max. Earth dist.		1880 Mar 16 14:53	25°♏50'20	5.95474 AU
	1875 Jan 13 09:56	0°♏		morning rise		1880 Mar 29 02:41	28°♏51'27	
retrograde	1875 Feb 15 12:06	1°♏39'54				1880 Apr 02 21:05	0°♏	
	1875 Mar 20 17:07	30°♏		retrograde		1880 Aug 08 14:01	19°♏33'04	
opposition	1875 Apr 17 05:21	26°♏47'22	1°31'55	min. Earth dist.		1880 Oct 06 10:17	14°♏38'22	3.95003 AU
min. Earth dist.	1875 Apr 18 09:19	26°♏38'25	4.44440 AU	opposition		1880 Oct 07 09:54	14°♏30'24	-1°-38'-7
direct	1875 Jun 18 23:31	21°♏45'39		direct		1880 Dec 04 07:45	9°♏36'12	
	1875 Sep 07 06:07	0°♏		evening set		1881 Apr 09 02:37	29°♏20'01	
evening set	1875 Oct 23 04:34	9°♏19'43				1881 Apr 11 21:32	0°♏	
max. Earth dist.	1875 Nov 02 23:07	11°♏41'10	6.41361 AU					
conjunction	1875 Nov 04 22:23	12°♏07'08	0°55'49	conjunction		1881 Apr 22 14:21	2°♏34'00	-1°00'-3
minimum elong	1875 Nov 04 22:25	12°♏07'09	0°55'50	minimum elong		1881 Apr 22 14:23	2°♏34'02	1°00'04
morning rise	1875 Nov 17 14:07	14°♏53'39		max. Earth dist.		1881 Apr 24 13:56	3°♏02'34	5.96758 AU
	1875 Nov 18 01:46	15°♏		morning rise		1881 May 06 04:52	5°♏49'24	
retrograde	1876 Feb 10 09:32	0°♏				1881 Jun 15 16:45	15°♏	
	1876 Mar 17 21:05	1°♏59'56		retrograde		1881 Sep 14 20:14	26°♏14'10	
opposition	1876 Apr 23 14:29	30°♏		min. Earth dist.		1881 Nov 11 22:45	21°♏20'53	4.00854 AU
min. Earth dist.	1876 May 17 18:36	27°♏08'05	1°04'54	opposition		1881 Nov 13 08:50	21°♏09'16	-1°-12'-59
direct	1876 May 19 07:03	26°♏56'28	4.36797 AU	direct		1882 Jan 10 09:25	16°♏12'36	
	1876 Jul 19 07:01	22°♏08'08				1882 Apr 22 02:24	0°♏	
	1876 Oct 04 11:10	0°♏		evening set		1882 May 16 15:05	5°♏34'44	
evening set	1876 Nov 21 23:16	10°♏02'11		conjunction		1882 May 30 08:29	8°♏46'49	0°-33'-14
max. Earth dist.	1876 Dec 02 13:33	12°♏24'56	6.30801 AU	minimum elong		1882 May 30 08:31	8°♏46'51	0°33'14
conjunction	1876 Dec 04 15:12	12°♏52'56	0°29'25	max. Earth dist.		1882 Jun 01 16:07	9°♏19'18	6.06559 AU
minimum elong	1876 Dec 04 15:14	12°♏52'56	0°29'25	morning rise		1882 Jun 13 03:38	11°♏59'31	
morning rise	1876 Dec 17 05:53	15°♏43'20				1882 Sep 19 23:36	0°♏	
	1877 Mar 01 09:11	0°♏		retrograde		1882 Oct 19 17:59	1°♏25'28	
retrograde	1877 Apr 20 02:11	3°♏37'30				1882 Nov 18 06:31	30°♏	
	1877 Jun 10 02:21	30°♏		min. Earth dist.		1882 Dec 16 22:50	26°♏32'19	4.13440 AU
opposition	1877 Jun 20 00:44	28°♏44'44	0°17'41	opposition		1882 Dec 18 07:54	26°♏21'03	0°-21'-46
min. Earth dist.	1877 Jun 21 09:47	28°♏34'10	4.23900 AU	direct		1883 Feb 15 05:12	21°♏21'21	
direct	1877 Aug 20 14:00	23°♏47'13				1883 May 05 01:59	0°♏	
desc. node	1877 Oct 25 08:54	29°♏53'47		asc. node		1883 May 19 19:26	2°♏55'09	
	1877 Oct 25 23:29	0°♏		evening set		1883 Jun 21 21:33	10°♏05'56	
evening set	1877 Dec 23 21:52	12°♏15'00		conjunction		1883 Jul 05 15:09	13°♏11'42	0°04'33
max. Earth dist.	1878 Jan 04 00:00	14°♏49'22	6.16638 AU	minimum elong		1883 Jul 05 15:09	13°♏11'42	0°04'34
conjunction	1878 Jan 05 14:38	15°♏11'52	0°-6'-58	behind sun begin		1883 Jul 05 06:59	13°♏07'07	
minimum elong	1878 Jan 05 14:38	15°♏11'52	0°06'58	behind sun end		1883 Jul 05 23:19	13°♏16'18	
behind sun begin	1878 Jan 05 07:13	15°♏07'33		max. Earth dist.		1883 Jul 07 09:42	13°♏35'43	6.20840 AU
behind sun end	1878 Jan 05 22:03	15°♏16'10		morning rise		1883 Jul 19 08:30	16°♏17'02	
morning rise	1878 Jan 18 07:50	18°♏09'12				1883 Sep 27 00:21	0°♏	
	1878 Mar 15 04:32	0°♏		retrograde		1883 Nov 21 09:23	4°♏33'03	
retrograde	1878 May 25 17:34	7°♏09'51				1884 Jan 16 14:14	30°♏	
opposition	1878 Jul 25 09:20	2°♏14'39	0°-38'-25	min. Earth dist.		1884 Jan 19 07:37	29°♏38'06	4.27968 AU
min. Earth dist.	1878 Jul 26 05:14	2°♏08'12	4.09452 AU	opposition		1884 Jan 20 03:17	29°♏31'30	0°33'27
	1878 Aug 12 09:03	30°♏		direct		1884 Mar 20 09:42	24°♏29'32	
direct	1878 Sep 23 14:23	27°♏19'31				1884 May 21 22:46	0°♏	
	1878 Nov 03 22:41	0°♏		evening set		1884 Jul 25 05:58	12°♏36'43	
						1884 Aug 05 03:38	15°♏	

conjunction	1884 Aug 07 18:31	15°♏34'31	0°39'07	conjunction	1890 Jan 10 05:29	19°♄59'08	0°-12'-14
minimum elong	1884 Aug 07 18:29	15°♏34'30	0°39'06	minimum elong	1890 Jan 10 05:28	19°♄59'08	0°12'15
max. Earth dist.	1884 Aug 08 12:01	15°♏44'07	6.34473 AU	behind sun begin	1890 Jan 10 00:01	19°♄55'58	
morning rise	1884 Aug 21 05:05	18°♏31'09		behind sun end	1890 Jan 10 10:55	20°♄02'18	
	1884 Oct 18 05:52	0°♎		morning rise	1890 Jan 22 23:18	22°♄57'49	
retrograde	1884 Dec 21 05:20	5°♎50'50			1890 Feb 23 06:24	0°≈	
opposition	1885 Feb 19 07:48	0°♎53'03	1°15'27	retrograde	1890 May 30 22:12	12°≈10'02	
min. Earth dist.	1885 Feb 19 05:08	0°♎53'56	4.39714 AU	opposition	1890 Jul 30 12:37	7°≈14'26	0°-45'-56
	1885 Feb 26 01:48	30°♎♏		min. Earth dist.	1890 Jul 31 05:08	7°≈09'04	4.07161 AU
direct	1885 Apr 21 20:16	25°♏50'07		direct	1890 Sep 28 11:20	2°≈19'39	
	1885 Jun 15 13:05	0°♎			1891 Jan 03 07:52	15°≈	
evening set	1885 Aug 26 17:03	13°♎30'48		evening set	1891 Jan 31 17:06	21°≈33'38	
conjunction	1885 Sep 08 22:00	16°♎21'52	1°01'05	conjunction	1891 Feb 13 14:36	24°≈39'06	0°-46'-42
minimum elong	1885 Sep 08 21:59	16°♎21'51	1°01'05	minimum elong	1891 Feb 13 14:34	24°≈39'04	0°46'43
max. Earth dist.	1885 Sep 08 10:55	16°♎15'52	6.43432 AU	max. Earth dist.	1891 Feb 13 05:14	24°≈33'29	6.01324 AU
morning rise	1885 Sep 22 00:11	19°♎11'31		morning rise	1891 Feb 26 14:19	27°≈45'54	
	1885 Nov 16 01:07	0°♎			1891 Mar 08 00:39	0°✠	
retrograde	1886 Jan 20 08:46	6°♎00'10		retrograde	1891 Jul 07 18:27	18°✠01'08	
opposition	1886 Mar 21 18:57	1°♎05'44	1°35'13	opposition	1891 Sep 05 22:25	13°✠01'44	-1°-28'-19
min. Earth dist.	1886 Mar 22 11:06	1°♎00'31	4.45445 AU	min. Earth dist.	1891 Sep 05 16:10	13°✠03'48	3.97112 AU
	1886 Mar 30 07:48	30°♎♎		direct	1891 Nov 03 12:41	8°✠08'09	
direct	1886 May 23 06:15	26°♎03'01		evening set	1892 Mar 07 23:07	27°✠49'07	
	1886 Jul 15 20:36	0°♎			1892 Mar 16 23:44	0°♑	
evening set	1886 Sep 26 19:18	13°♎32'46		conjunction	1892 Mar 21 03:49	1°♑00'40	-1°-4'-44
max. Earth dist.	1886 Oct 08 06:02	16°♎01'09	6.45437 AU	minimum elong	1892 Mar 21 03:49	1°♑00'39	1°04'45
conjunction	1886 Oct 09 17:18	16°♎20'16	1°05'58	max. Earth dist.	1892 Mar 22 05:22	1°♑16'08	5.94975 AU
minimum elong	1886 Oct 09 17:18	16°♎20'16	1°05'58	morning rise	1892 Apr 03 11:24	4°♑13'52	
morning rise	1886 Oct 22 12:38	19°♎06'30		retrograde	1892 Aug 14 00:53	24°♑56'27	
	1886 Dec 16 23:49	0°♎		opposition	1892 Oct 12 18:27	19°♑53'19	-1°-36'-45
retrograde	1887 Feb 19 17:04	5°♎52'41		min. Earth dist.	1892 Oct 11 16:47	20°♑02'00	3.95329 AU
opposition	1887 Apr 21 10:54	1°♎00'15	1°29'36	direct	1892 Dec 09 15:56	14°♑58'53	
min. Earth dist.	1887 Apr 22 17:10	0°♎50'34	4.43717 AU		1893 Mar 25 11:56	0°♒	
	1887 Apr 29 08:31	30°♎♎		evening set	1893 Apr 14 11:25	4°♒40'42	
direct	1887 Jun 23 05:24	25°♎58'38		conjunction	1893 Apr 28 00:01	7°♒54'38	0°-57'-24
	1887 Aug 16 06:32	0°♎		minimum elong	1893 Apr 28 00:04	7°♒54'39	0°57'25
evening set	1887 Oct 27 08:29	13°♎34'50		max. Earth dist.	1893 Apr 30 02:01	8°♒24'31	5.97829 AU
	1887 Nov 02 19:59	15°♎		morning rise	1893 May 11 15:37	11°♒09'56	
max. Earth dist.	1887 Nov 07 02:06	15°♎56'11	6.40046 AU		1893 May 28 01:11	15°♒	
conjunction	1887 Nov 09 02:04	16°♎22'37	0°53'02		1893 Aug 20 19:17	0°♐	
minimum elong	1887 Nov 09 02:05	16°♎22'38	0°53'02	retrograde	1893 Sep 19 21:27	1°♐27'29	
morning rise	1887 Nov 21 17:20	19°♎09'30			1893 Oct 19 17:49	30°♎♒	
	1888 Jan 14 17:30	0°♒		min. Earth dist.	1893 Nov 16 23:19	26°♒34'38	4.02531 AU
retrograde	1888 Mar 22 06:43	6°♒21'39		opposition	1893 Nov 18 11:03	26°♒22'26	-1°-6'-45
opposition	1888 May 22 05:09	1°♒29'45	0°59'26	direct	1894 Jan 15 12:57	21°♒25'20	
min. Earth dist.	1888 May 23 17:44	1°♒18'07	4.34961 AU		1894 Apr 02 13:12	0°♐	
	1888 Jun 03 03:30	30°♎♎		evening set	1894 May 21 20:19	10°♐41'48	
direct	1888 Jul 23 14:38	26°♎30'07		conjunction	1894 Jun 04 14:03	13°♐53'04	0°-28'-11
	1888 Sep 11 04:21	0°♒		minimum elong	1894 Jun 04 14:05	13°♐53'05	0°28'12
evening set	1888 Nov 26 06:53	14°♒29'18		max. Earth dist.	1894 Jun 06 20:34	14°♐24'44	6.08665 AU
max. Earth dist.	1888 Dec 06 20:32	16°♒52'29	6.28583 AU	morning rise	1894 Jun 18 09:13	17°♐04'46	
conjunction	1888 Dec 08 22:41	17°♒20'55	0°24'49		1894 Aug 19 10:47	0°♑	
minimum elong	1888 Dec 08 22:43	17°♒20'56	0°24'49	retrograde	1894 Oct 24 11:39	6°♑20'00	
morning rise	1888 Dec 21 13:43	20°♒12'20		min. Earth dist.	1894 Dec 21 18:55	1°♑26'22	4.15725 AU
	1889 Feb 05 23:50	0°♄		opposition	1894 Dec 23 01:46	1°♑15'53	0°-13'-43
retrograde	1889 Apr 24 22:38	8°♄16'22			1895 Jan 01 11:49	30°♎♐	
opposition	1889 Jun 24 19:26	3°♄23'20	0°10'06	direct	1895 Feb 20 04:36	26°♐15'49	
min. Earth dist.	1889 Jun 26 03:58	3°♄12'54	4.21430 AU	asc. node	1895 Mar 29 06:46	28°♐25'29	
	1889 Jul 24 00:11	30°♎♒			1895 Apr 10 19:12	0°♑	
direct	1889 Aug 25 05:00	28°♒26'06		evening set	1895 Jun 26 20:00	14°♑53'57	
desc. node	1889 Sep 04 19:48	28°♒36'47		conjunction	1895 Jul 10 13:11	17°♑58'33	0°09'52
	1889 Sep 26 03:38	0°♄		minimum elong	1895 Jul 10 13:10	17°♑58'32	0°09'52
evening set	1889 Dec 28 12:06	17°♄01'00		behind sun begin	1895 Jul 10 06:28	17°♑54'47	
max. Earth dist.	1890 Jan 08 17:51	19°♄38'18	6.14142 AU				

behind sun end	1895 Jul 10 19:53	18° $\overline{50}$ 2'17		direct	1901 Aug 30 21:47	3° $\overline{3}$ 13'29	
max. Earth dist.	1895 Jul 12 05:34	18° $\overline{50}$ 21'13	6.23117 AU	evening set	1902 Jan 03 05:07	21° $\overline{3}$ 54'23	
morning rise	1895 Jul 24 05:42	21° $\overline{50}$ 2'33					
	1895 Sep 04 18:36	0° Ω		conjunction	1902 Jan 15 22:46	24° $\overline{3}$ 53'32	0°-17'-34
retrograde	1895 Nov 25 17:38	9° Ω 08'47		minimum elong	1902 Jan 15 22:45	24° $\overline{3}$ 53'31	0°17'35
opposition	1896 Jan 24 13:42	4° Ω 07'48	0°40'25	max. Earth dist.	1902 Jan 14 13:45	24° $\overline{3}$ 34'07	6.12085 AU
min. Earth dist.	1896 Jan 23 19:34	4° Ω 13'52	4.30058 AU	morning rise	1902 Jan 28 17:23	27° $\overline{3}$ 53'24	
	1896 Mar 01 03:21	30° \overline{R} $\overline{5}$			1902 Feb 06 19:30	0° \approx	
direct	1896 Mar 24 23:47	29° $\overline{5}$ 05'41			1902 Apr 28 17:23	15° \approx	
	1896 Apr 18 05:03	0° Ω		retrograde	1902 Jun 06 04:31	17° \approx 15'28	
	1896 Jul 20 00:04	15° Ω			1902 Jul 14 22:05	15° \overline{R} \approx	
evening set	1896 Jul 29 21:08	17° Ω 07'51		opposition	1902 Aug 05 17:20	12° \approx 19'21	0°-53'-17
				min. Earth dist.	1902 Aug 06 06:21	12° \approx 15'06	4.05427 AU
conjunction	1896 Aug 12 08:34	20° Ω 04'31	0°43'05	direct	1902 Oct 04 11:13	7° \approx 24'49	
minimum elong	1896 Aug 12 08:32	20° Ω 04'30	0°43'05		1902 Dec 15 10:21	15° \approx	
max. Earth dist.	1896 Aug 12 20:52	20° Ω 11'15	6.36218 AU	evening set	1903 Feb 06 17:08	26° \approx 43'24	
morning rise	1896 Aug 25 18:02	22° Ω 59'58					
	1896 Sep 28 07:01	0° \overline{R}		conjunction	1903 Feb 19 15:38	29° \approx 49'48	0°-50'-32
retrograde	1896 Dec 25 11:31	10° \overline{R} 13'26		minimum elong	1903 Feb 19 15:36	29° \approx 49'47	0°50'33
opposition	1897 Feb 23 14:18	5° \overline{R} 16'14	1°19'39	max. Earth dist.	1903 Feb 19 12:46	29° \approx 48'05	6.00098 AU
min. Earth dist.	1897 Feb 23 15:21	5° \overline{R} 15'54	4.41012 AU		1903 Feb 20 08:34	0° \overline{H}	
direct	1897 Apr 26 07:56	0° \overline{R} 13'18		morning rise	1903 Mar 04 16:12	2° \overline{H} 57'34	
evening set	1897 Aug 31 02:17	17° \overline{R} 51'17		retrograde	1903 Jul 14 04:20	23° \overline{H} 18'29	
				opposition	1903 Sep 12 06:24	18° \overline{H} 18'31	-1°-31'-50
conjunction	1897 Sep 13 06:15	20° \overline{R} 41'40	1°02'50	min. Earth dist.	1903 Sep 11 21:18	18° \overline{H} 21'32	3.96555 AU
minimum elong	1897 Sep 13 06:14	20° \overline{R} 41'39	1°02'49	direct	1903 Nov 09 17:32	13° \overline{H} 24'58	
max. Earth dist.	1897 Sep 12 15:16	20° \overline{R} 33'34	6.44175 AU		1904 Mar 01 02:59	0° \overline{Y}	
morning rise	1897 Sep 26 07:20	23° \overline{R} 30'37		evening set	1904 Mar 14 04:10	3° \overline{Y} 06'33	
	1897 Oct 27 15:16	0° \overline{A}					
retrograde	1898 Jan 24 12:17	10° \overline{A} 17'20		conjunction	1904 Mar 27 09:47	6° \overline{Y} 18'30	-1°-5'-16
opposition	1898 Mar 26 00:33	5° \overline{A} 23'16	1°35'57	minimum elong	1904 Mar 27 09:46	6° \overline{Y} 18'30	1°05'16
min. Earth dist.	1898 Mar 26 18:37	5° \overline{A} 17'26	4.45623 AU	max. Earth dist.	1904 Mar 28 14:43	6° \overline{Y} 36'00	5.95111 AU
direct	1898 May 27 13:06	0° \overline{A} 20'39		morning rise	1904 Apr 09 18:39	9° \overline{Y} 32'09	
evening set	1898 Oct 01 01:45	17° \overline{A} 50'33			1904 Aug 08 20:07	0° \overline{B}	
max. Earth dist.	1898 Oct 12 09:54	20° \overline{A} 17'45	6.45034 AU	retrograde	1904 Aug 20 05:28	0° \overline{B} 12'49	
					1904 Aug 31 13:58	30° \overline{R} \overline{Y}	
conjunction	1898 Oct 13 23:02	20° \overline{A} 37'54	1°05'10	opposition	1904 Oct 18 23:26	25° \overline{Y} 09'14	-1°-34'-37
minimum elong	1898 Oct 13 23:02	20° \overline{A} 37'54	1°05'11	min. Earth dist.	1904 Oct 17 18:42	25° \overline{Y} 18'58	3.96165 AU
morning rise	1898 Oct 26 17:32	23° \overline{A} 24'01		direct	1904 Dec 15 19:58	20° \overline{Y} 14'27	
	1898 Nov 27 11:16	0° \overline{M}			1905 Mar 07 18:27	0° \overline{B}	
retrograde	1899 Feb 24 00:31	10° \overline{M} 12'29		evening set	1905 Apr 20 16:45	9° \overline{B} 52'39	
opposition	1899 Apr 25 19:08	5° \overline{M} 20'18	1°26'45				
min. Earth dist.	1899 Apr 27 03:14	5° \overline{M} 10'03	4.42762 AU	conjunction	1905 May 04 06:17	13° \overline{B} 06'18	0°-54'-23
direct	1899 Jun 27 13:54	0° \overline{M} 18'57		minimum elong	1905 May 04 06:20	13° \overline{B} 06'20	0°54'23
	1899 Oct 17 22:12	15° \overline{M}		max. Earth dist.	1905 May 06 09:53	13° \overline{B} 37'03	5.99266 AU
evening set	1899 Oct 31 15:21	17° \overline{M} 57'58			1905 May 12 05:19	15° \overline{B}	
max. Earth dist.	1899 Nov 11 05:52	20° \overline{M} 18'12	6.38598 AU	morning rise	1905 May 17 22:32	16° \overline{B} 21'13	
					1905 Jul 21 00:22	0° \overline{H}	
conjunction	1899 Nov 13 08:26	20° \overline{M} 46'09	0°49'52	retrograde	1905 Sep 25 19:20	6° \overline{H} 30'22	
minimum elong	1899 Nov 13 08:28	20° \overline{M} 46'10	0°49'52	min. Earth dist.	1905 Nov 22 22:03	1° \overline{H} 37'06	4.04381 AU
morning rise	1899 Nov 25 23:40	23° \overline{M} 33'35		opposition	1905 Nov 24 08:47	1° \overline{H} 25'15	-1°00'-14
	1899 Dec 26 06:47	0° \overline{A}			1905 Dec 04 22:32	30° \overline{R} \overline{B}	
retrograde	1900 Mar 27 21:18	10° \overline{A} 52'10		direct	1906 Jan 21 14:25	26° \overline{B} 27'40	
opposition	1900 May 27 19:17	6° \overline{A} 00'12	0°53'26		1906 Mar 09 21:47	0° \overline{H}	
min. Earth dist.	1900 May 29 08:08	5° \overline{A} 48'28	4.33103 AU	evening set	1906 May 27 21:25	15° \overline{H} 38'11	
direct	1900 Jul 29 02:24	1° \overline{A} 00'51					
evening set	1900 Dec 01 17:12	19° \overline{A} 05'07		conjunction	1906 Jun 10 15:29	18° \overline{H} 48'37	0°-23'-7
max. Earth dist.	1900 Dec 12 09:23	21° \overline{A} 30'23	6.26484 AU	minimum elong	1906 Jun 10 15:30	18° \overline{H} 48'38	0°23'08
				max. Earth dist.	1906 Jun 12 21:44	19° \overline{H} 19'58	6.10765 AU
conjunction	1900 Dec 14 09:15	21° \overline{A} 57'38	0°19'55	morning rise	1906 Jun 24 10:33	21° \overline{H} 59'19	
minimum elong	1900 Dec 14 09:16	21° \overline{A} 57'39	0°19'55		1906 Jul 30 23:12	0° \overline{B}	
morning rise	1900 Dec 27 00:23	24° \overline{A} 50'01		retrograde	1906 Oct 30 00:16	11° \overline{B} 04'05	
	1901 Jan 19 08:33	0° \overline{B}		min. Earth dist.	1906 Dec 27 09:31	6° \overline{B} 10'27	4.17862 AU
retrograde	1901 Apr 30 20:41	13° \overline{B} 03'30		opposition	1906 Dec 28 15:22	6° \overline{B} 00'21	0°-5'-53
opposition	1901 Jun 30 17:09	8° \overline{B} 10'16	0°02'11	asc. node	1907 Feb 08 01:32	1° \overline{B} 31'37	
min. Earth dist.	1901 Jul 01 23:47	8° \overline{B} 00'27	4.19251 AU	direct	1907 Feb 25 21:40	0° \overline{B} 59'56	
desc. node	1901 Jul 16 03:59	6° \overline{B} 14'30		evening set	1907 Jul 02 14:38	19° \overline{B} 32'24	

conjunction	1907 Jul 16 07:09	22° \mathfrak{G} 35'53	0°14'57	desc. node	1913 May 25 19:53	17° \mathfrak{Z} 12'59	
minimum elong	1907 Jul 16 07:08	22° \mathfrak{G} 35'52	0°14'57	opposition	1913 Jul 05 14:58	12° \mathfrak{Z} 56'46	0°-5'-46
behind sun begin	1907 Jul 16 04:25	22° \mathfrak{G} 34'21		min. Earth dist.	1913 Jul 06 19:09	12° \mathfrak{Z} 47'42	4.17370 AU
behind sun end	1907 Jul 16 09:50	22° \mathfrak{G} 37'23		direct	1913 Sep 04 14:56	8° \mathfrak{Z} 00'18	
max. Earth dist.	1907 Jul 17 18:17	22° \mathfrak{G} 55'32	6.25114 AU	evening set	1914 Jan 07 21:30	26° \mathfrak{Z} 46'04	
morning rise	1907 Jul 29 23:02	25° \mathfrak{G} 38'42		max. Earth dist.	1914 Jan 19 11:37	29° \mathfrak{Z} 29'34	6.10363 AU
	1907 Aug 18 23:14	0° \mathfrak{Q}					
retrograde	1907 Dec 01 01:20	13° \mathfrak{Q} 36'38		conjunction	1914 Jan 20 15:46	29° \mathfrak{Z} 46'10	0°-22'-46
opposition	1908 Jan 29 21:33	8° \mathfrak{Q} 36'10	0°46'56	minimum elong	1914 Jan 20 15:44	29° \mathfrak{Z} 46'09	0°22'47
min. Earth dist.	1908 Jan 29 06:57	8° \mathfrak{Q} 41'02	4.31761 AU		1914 Jan 21 15:13	0° \approx	
direct	1908 Mar 30 13:16	3° \mathfrak{Q} 33'49		morning rise	1914 Feb 02 10:51	2° \approx 47'02	
	1908 Jul 04 05:12	15° \mathfrak{Q}			1914 Mar 31 08:52	15° \approx	
evening set	1908 Aug 04 09:27	21° \mathfrak{Q} 32'16		retrograde	1914 Jun 11 09:56	22° \approx 17'41	
				opposition	1914 Aug 10 20:57	17° \approx 21'06	-1°00'-10
conjunction	1908 Aug 17 20:07	24° \mathfrak{Q} 28'02	0°46'43	min. Earth dist.	1914 Aug 11 07:39	17° \approx 17'36	4.04013 AU
minimum elong	1908 Aug 17 20:04	24° \mathfrak{Q} 28'01	0°46'43		1914 Aug 29 15:48	15° \mathfrak{R} \approx	
max. Earth dist.	1908 Aug 18 05:25	24° \mathfrak{Q} 33'07	6.37508 AU	direct	1914 Oct 09 10:25	12° \approx 26'51	
morning rise	1908 Aug 31 04:21	27° \mathfrak{Q} 22'30			1914 Nov 18 10:45	15° \approx	
	1908 Sep 12 10:01	0° \mathfrak{P}			1915 Feb 04 00:43	0° \mathfrak{K}	
retrograde	1908 Dec 30 14:22	14° \mathfrak{P} 31'21		evening set	1915 Feb 11 15:54	1° \mathfrak{K} 49'02	
opposition	1909 Feb 28 19:08	9° \mathfrak{P} 34'40	1°23'20				
min. Earth dist.	1909 Feb 28 21:56	9° \mathfrak{P} 33'45	4.41839 AU	conjunction	1915 Feb 24 15:03	4° \mathfrak{K} 56'13	0°-53'-56
direct	1909 May 01 14:51	4° \mathfrak{P} 31'44		minimum elong	1915 Feb 24 15:01	4° \mathfrak{K} 56'12	0°53'58
evening set	1909 Sep 05 10:31	22° \mathfrak{P} 08'32		max. Earth dist.	1915 Feb 24 15:15	4° \mathfrak{K} 56'21	5.99097 AU
				morning rise	1915 Mar 09 16:46	8° \mathfrak{K} 04'54	
conjunction	1909 Sep 18 13:25	24° \mathfrak{P} 58'22	1°04'11	retrograde	1915 Jul 19 09:49	28° \mathfrak{K} 30'43	
minimum elong	1909 Sep 18 13:24	24° \mathfrak{P} 58'22	1°04'11	opposition	1915 Sep 17 11:52	23° \mathfrak{K} 30'13	-1°-34'-35
max. Earth dist.	1909 Sep 17 18:11	24° \mathfrak{P} 47'58	6.44481 AU	min. Earth dist.	1915 Sep 16 22:56	23° \mathfrak{K} 34'32	3.96101 AU
morning rise	1909 Oct 01 13:35	27° \mathfrak{P} 46'50		direct	1915 Nov 14 19:30	18° \mathfrak{K} 36'38	
	1909 Oct 11 23:33	0° \mathfrak{A}			1916 Feb 12 07:10	0° \mathfrak{Y}	
retrograde	1910 Jan 29 18:10	14° \mathfrak{A} 32'58		evening set	1916 Mar 19 07:32	8° \mathfrak{Y} 19'01	
opposition	1910 Mar 31 06:13	9° \mathfrak{A} 39'18	1°36'09				
min. Earth dist.	1910 Apr 01 03:16	9° \mathfrak{A} 32'31	4.45416 AU	conjunction	1916 Apr 01 14:18	11° \mathfrak{Y} 31'25	-1°-5'-17
direct	1910 Jun 01 21:15	4° \mathfrak{A} 36'50		minimum elong	1916 Apr 01 14:18	11° \mathfrak{Y} 31'25	1°05'19
evening set	1910 Oct 06 08:01	22° \mathfrak{A} 07'50		max. Earth dist.	1916 Apr 02 23:22	11° \mathfrak{Y} 51'25	5.95239 AU
max. Earth dist.	1910 Oct 17 12:44	24° \mathfrak{A} 33'30	6.44323 AU	morning rise	1916 Apr 15 00:09	14° \mathfrak{Y} 45'28	
					1916 Jun 26 01:31	0° \mathfrak{B}	
conjunction	1910 Oct 19 04:39	24° \mathfrak{A} 55'13	1°04'02	retrograde	1916 Aug 25 09:34	5° \mathfrak{B} 24'32	
minimum elong	1910 Oct 19 04:40	24° \mathfrak{A} 55'13	1°04'01	min. Earth dist.	1916 Oct 22 20:52	0° \mathfrak{B} 30'33	3.96857 AU
morning rise	1910 Oct 31 22:36	27° \mathfrak{A} 41'24		opposition	1916 Oct 24 02:13	0° \mathfrak{B} 20'35	-1°-31'-48
	1910 Nov 11 17:04	0° \mathfrak{M}			1916 Oct 26 14:54	30° \mathfrak{R} \mathfrak{Y}	
retrograde	1911 Mar 01 08:49	14° \mathfrak{M} 33'10		direct	1916 Dec 20 23:37	25° \mathfrak{Y} 25'28	
opposition	1911 May 01 04:24	9° \mathfrak{M} 41'05	1°23'25		1917 Feb 12 15:57	0° \mathfrak{B}	
min. Earth dist.	1911 May 02 12:51	9° \mathfrak{M} 30'43	4.41610 AU	evening set	1917 Apr 25 20:47	15° \mathfrak{B} 01'06	
direct	1911 Jul 02 21:30	4° \mathfrak{M} 39'59			1917 Apr 25 18:55	15° \mathfrak{B}	
	1911 Oct 01 20:30	15° \mathfrak{M}					
evening set	1911 Nov 05 22:36	22° \mathfrak{M} 22'09		conjunction	1917 May 09 11:18	18° \mathfrak{B} 14'39	0°-51'00
max. Earth dist.	1911 Nov 16 14:03	24° \mathfrak{M} 43'23	6.37102 AU	minimum elong	1917 May 09 11:20	18° \mathfrak{B} 14'40	0°51'01
				max. Earth dist.	1917 May 11 17:07	18° \mathfrak{B} 46'36	6.00453 AU
conjunction	1911 Nov 18 15:27	25° \mathfrak{M} 10'49	0°46'24	morning rise	1917 May 23 04:16	21° \mathfrak{B} 29'20	
minimum elong	1911 Nov 18 15:29	25° \mathfrak{M} 10'50	0°46'23		1917 Jun 29 23:51	0° \mathfrak{I}	
morning rise	1911 Dec 01 06:22	27° \mathfrak{M} 58'45		retrograde	1917 Sep 30 16:05	11° \mathfrak{I} 31'11	
	1911 Dec 10 11:35	0° \mathfrak{J}		min. Earth dist.	1917 Nov 27 18:21	6° \mathfrak{I} 38'06	4.05926 AU
retrograde	1912 Apr 01 12:12	15° \mathfrak{J} 23'49		opposition	1917 Nov 29 05:24	6° \mathfrak{I} 26'09	0°-53'-22
opposition	1912 Jun 01 10:23	10° \mathfrak{J} 31'50	0°47'03	direct	1918 Jan 26 12:48	1° \mathfrak{I} 28'11	
min. Earth dist.	1912 Jun 02 23:04	10° \mathfrak{J} 20'09	4.31349 AU	evening set	1918 Jun 01 22:17	20° \mathfrak{I} 34'12	
direct	1912 Aug 02 14:56	5° \mathfrak{J} 32'53					
evening set	1912 Dec 06 04:13	23° \mathfrak{J} 41'37		conjunction	1918 Jun 15 16:21	23° \mathfrak{I} 43'54	0°-17'-54
max. Earth dist.	1912 Dec 16 20:44	26° \mathfrak{J} 07'47	6.24607 AU	minimum elong	1918 Jun 15 16:22	23° \mathfrak{I} 43'55	0°17'55
				max. Earth dist.	1918 Jun 17 19:25	24° \mathfrak{I} 13'16	6.12519 AU
conjunction	1912 Dec 18 20:11	26° \mathfrak{J} 34'54	0°14'52	morning rise	1918 Jun 29 11:29	26° \mathfrak{I} 53'46	
minimum elong	1912 Dec 18 20:12	26° \mathfrak{J} 34'55	0°14'52		1918 Jul 13 05:53	0° \mathfrak{E}	
behind sun begin	1912 Dec 18 16:51	26° \mathfrak{J} 33'00		retrograde	1918 Nov 03 13:52	15° \mathfrak{E} 49'42	
behind sun end	1912 Dec 18 23:32	26° \mathfrak{J} 36'49		asc. node	1918 Dec 19 07:29	12° \mathfrak{E} 36'42	
morning rise	1912 Dec 31 11:45	29° \mathfrak{J} 28'12		min. Earth dist.	1919 Jan 01 01:38	10° \mathfrak{E} 55'41	4.19642 AU
	1913 Jan 02 19:45	0° \mathfrak{Z}		opposition	1919 Jan 02 05:20	10° \mathfrak{E} 46'18	0°01'58
retrograde	1913 May 05 19:02	17° \mathfrak{Z} 50'22		direct	1919 Mar 02 16:35	5° \mathfrak{E} 45'31	

evening set	1919 Jul 07 10:01	24°☿13'40		behind sun begin	1924 Dec 22 23:03	1°♄04'35	
				behind sun end	1924 Dec 23 12:06	1°♄12'02	
conjunction	1919 Jul 21 02:08	27°♄16'12	0°20'00	morning rise	1925 Jan 04 21:11	4°♄02'13	
minimum elong	1919 Jul 21 02:07	27°♄16'11	0°19'59	desc. node	1925 Apr 06 11:27	20°♄44'44	
max. Earth dist.	1919 Jul 22 11:17	27°♄34'40	6.26795 AU	retrograde	1925 May 10 15:30	22°♄31'08	
	1919 Aug 02 08:38	0°♂		opposition	1925 Jul 10 10:24	17°♄37'13	0°-13'-26
morning rise	1919 Aug 03 17:01	0°♂17'54		min. Earth dist.	1925 Jul 11 13:43	17°♄28'26	4.15995 AU
	1919 Oct 20 21:43	15°♂		direct	1925 Sep 09 07:17	12°♄41'04	
retrograde	1919 Dec 05 09:36	18°♂08'33			1926 Jan 06 01:00	0°≈	
	1920 Jan 19 23:51	15°♂♂		evening set	1926 Jan 12 11:09	1°≈29'57	
opposition	1920 Feb 03 06:30	13°♂08'39	0°53'15	max. Earth dist.	1926 Jan 24 03:02	4°≈14'59	6.09058 AU
min. Earth dist.	1920 Feb 02 17:39	13°♂12'56	4.33219 AU				
direct	1920 Apr 04 01:36	8°♂06'12		conjunction	1926 Jan 25 05:41	4°≈30'45	0°-27'-37
	1920 Jun 14 14:07	15°♂		minimum elong	1926 Jan 25 05:39	4°≈30'44	0°27'37
evening set	1920 Aug 08 23:32	26°♂01'39		morning rise	1926 Feb 07 01:32	7°≈32'27	
					1926 Mar 11 23:25	15°≈	
conjunction	1920 Aug 22 09:01	28°♂56'32	0°50'08	retrograde	1926 Jun 16 08:35	27°≈10'02	
minimum elong	1920 Aug 22 08:59	28°♂56'31	0°50'08	opposition	1926 Aug 15 20:07	22°≈12'57	-1°-6'-21
max. Earth dist.	1920 Aug 22 13:09	28°♂58'47	6.38634 AU	min. Earth dist.	1926 Aug 16 03:31	22°≈10'31	4.02904 AU
	1920 Aug 27 05:29	0°♎		direct	1926 Oct 14 04:48	17°≈18'49	
morning rise	1920 Sep 04 16:18	1°♎50'07			1927 Jan 18 11:43	0°♏	
retrograde	1921 Jan 03 21:37	18°♎54'52		evening set	1927 Feb 16 10:49	6°♏43'52	
opposition	1921 Mar 05 02:15	13°♎58'40	1°26'39				
min. Earth dist.	1921 Mar 05 08:08	13°♎56'45	4.42597 AU	conjunction	1927 Mar 01 10:53	9°♏51'48	0°-56'-48
direct	1921 May 06 01:47	8°♎55'45		minimum elong	1927 Mar 01 10:51	9°♏51'47	0°56'49
evening set	1921 Sep 09 20:08	26°♎31'11		max. Earth dist.	1927 Mar 01 15:28	9°♏54'34	5.98288 AU
				morning rise	1927 Mar 14 13:26	13°♏01'14	
conjunction	1921 Sep 22 22:12	29°♎20'32	1°05'15		1927 Jun 06 10:13	0°♐	
minimum elong	1921 Sep 22 22:11	29°♎20'31	1°05'16	retrograde	1927 Jul 24 13:10	3°♐31'14	
max. Earth dist.	1921 Sep 22 01:17	29°♎09'13	6.44834 AU		1927 Sep 11 03:44	30°♐♏	
	1921 Sep 25 23:10	0°♑		opposition	1927 Sep 22 12:37	28°♏30'15	-1°-36'-31
morning rise	1921 Oct 05 21:14	2°♑08'27		min. Earth dist.	1927 Sep 21 22:32	28°♏34'57	3.95682 AU
retrograde	1922 Feb 02 23:30	18°♑53'45		direct	1927 Nov 19 18:48	23°♏36'32	
opposition	1922 Apr 04 13:44	14°♑00'22	1°35'54		1928 Jan 23 02:54	0°♑	
min. Earth dist.	1922 Apr 05 11:20	13°♑53'25	4.45390 AU	evening set	1928 Mar 24 06:46	13°♑19'57	
direct	1922 Jun 06 04:49	8°♑58'08					
evening set	1922 Oct 10 15:37	26°♑29'15		conjunction	1928 Apr 06 14:41	16°♑32'52	-1°-4'-50
max. Earth dist.	1922 Oct 21 18:16	28°♑54'02	6.43939 AU	minimum elong	1928 Apr 06 14:42	16°♑32'53	1°04'51
				max. Earth dist.	1928 Apr 08 02:52	16°♑54'43	5.95250 AU
conjunction	1922 Oct 23 11:25	29°♑16'28	1°02'34	morning rise	1928 Apr 20 01:42	19°♑47'26	
minimum elong	1922 Oct 23 11:26	29°♑16'29	1°02'33		1928 Jun 04 04:50	0°♒	
	1922 Oct 26 19:16	0°♓		retrograde	1928 Aug 30 09:18	10°♒25'20	
morning rise	1922 Nov 05 04:43	2°♓02'33		min. Earth dist.	1928 Oct 27 17:51	5°♒31'38	3.97318 AU
	1923 Jan 12 16:35	15°♓		opposition	1928 Oct 29 00:41	5°♒21'10	-1°-28'-28
retrograde	1923 Mar 05 18:50	18°♓56'21		direct	1928 Dec 25 20:33	0°♒25'46	
	1923 Apr 28 06:53	15°♓♓			1929 Apr 09 07:01	15°♒	
opposition	1923 May 05 14:40	14°♓04'24	1°19'38	evening set	1929 Apr 30 21:44	20°♒00'08	
min. Earth dist.	1923 May 07 00:37	13°♓53'35	4.40892 AU				
direct	1923 Jul 07 08:21	9°♓03'34		conjunction	1929 May 14 12:59	23°♒13'40	0°-47'-22
	1923 Sep 11 19:26	15°♓		minimum elong	1929 May 14 13:01	23°♒13'41	0°47'23
evening set	1923 Nov 10 05:55	26°♓47'06		max. Earth dist.	1929 May 16 17:51	23°♒44'58	6.01316 AU
max. Earth dist.	1923 Nov 20 20:14	29°♓08'06	6.36109 AU	morning rise	1929 May 28 06:48	26°♒28'16	
					1929 Jun 12 12:20	0°♔	
conjunction	1923 Nov 22 22:24	29°♓36'00	0°42'44	retrograde	1929 Oct 05 09:56	16°♔24'21	
minimum elong	1923 Nov 22 22:26	29°♓36'01	0°42'44	opposition	1929 Dec 03 23:02	11°♔19'23	0°-46'-24
	1923 Nov 24 17:31	0°♕		min. Earth dist.	1929 Dec 02 12:30	11°♔31'11	4.07089 AU
morning rise	1923 Dec 05 13:11	2°♕24'17		direct	1930 Jan 31 09:17	6°♔21'01	
retrograde	1924 Apr 06 01:27	19°♕54'06		evening set	1930 Jun 06 21:09	25°♔24'11	
opposition	1924 Jun 06 00:49	15°♕01'55	0°40'31				
min. Earth dist.	1924 Jun 07 12:08	14°♕50'39	4.30132 AU	conjunction	1930 Jun 20 15:34	28°♔33'22	0°-12'-44
direct	1924 Aug 07 02:11	10°♕03'15		minimum elong	1930 Jun 20 15:35	28°♔33'23	0°12'44
evening set	1924 Dec 10 13:30	28°♕14'29		behind sun begin	1930 Jun 20 10:29	28°♔30'28	
	1924 Dec 18 06:25	0°♖		behind sun end	1930 Jun 20 20:41	28°♔36'17	
max. Earth dist.	1924 Dec 21 09:12	0°♖42'51	6.23273 AU	max. Earth dist.	1930 Jun 22 18:19	29°♔02'28	6.13917 AU
					1930 Jun 26 22:41	0°♗	
conjunction	1924 Dec 23 05:35	1°♖08'19	0°09'53	morning rise	1930 Jul 04 10:25	1°♗42'32	
minimum elong	1924 Dec 23 05:35	1°♖08'19	0°09'53	asc. node	1930 Oct 30 14:16	20°♗23'44	

retrograde	1930 Nov 08 03:21	20° $\overline{5}$ 30'55		max. Earth dist.	1936 Dec 25 20:11	5° $\overline{3}$ 20'30	6.21315 AU
opposition	1931 Jan 06 17:54	15° $\overline{5}$ 27'58	0°09'38				
min. Earth dist.	1931 Jan 05 15:36	15° $\overline{5}$ 36'51	4.21132 AU	conjunction	1936 Dec 27 16:15	5° $\overline{3}$ 45'52	0°04'43
direct	1931 Mar 07 08:40	10° $\overline{5}$ 26'57		minimum elong	1936 Dec 27 16:15	5° $\overline{3}$ 45'53	0°04'44
evening set	1931 Jul 12 04:28	28° $\overline{5}$ 51'41		behind sun begin	1936 Dec 27 08:27	5° $\overline{3}$ 41'25	
	1931 Jul 17 07:51	0° Ω		behind sun end	1936 Dec 28 00:03	5° $\overline{3}$ 50'21	
				morning rise	1937 Jan 09 08:21	8° $\overline{3}$ 40'47	
conjunction	1931 Jul 25 19:49	1° Ω 53'19	0°24'48	desc. node	1937 Feb 14 18:51	16° $\overline{3}$ 40'07	
minimum elong	1931 Jul 25 19:47	1° Ω 53'18	0°24'49	retrograde	1937 May 15 13:02	27° $\overline{3}$ 19'01	
max. Earth dist.	1931 Jul 27 01:01	2° Ω 09'32	6.28256 AU	opposition	1937 Jul 15 08:15	22° $\overline{3}$ 24'43	0°-21'-17
morning rise	1931 Aug 08 10:03	4° Ω 54'04		min. Earth dist.	1937 Jul 16 08:42	22° $\overline{3}$ 16'50	4.13983 AU
	1931 Sep 26 15:11	15° Ω		direct	1937 Sep 13 23:18	17° $\overline{3}$ 28'52	
retrograde	1931 Dec 09 17:30	22° Ω 38'14			1937 Dec 20 04:05	0° \approx	
opposition	1932 Feb 07 15:08	17° Ω 38'47	0°59'08	evening set	1938 Jan 17 04:11	6° \approx 23'27	
min. Earth dist.	1932 Feb 07 04:23	17° Ω 42'22	4.34548 AU				
	1932 Feb 28 16:08	15° \overline{R} Ω		conjunction	1938 Jan 29 23:22	9° \approx 25'19	0°-32'-28
direct	1932 Apr 08 14:10	12° Ω 36'10		minimum elong	1938 Jan 29 23:20	9° \approx 25'18	0°32'30
	1932 May 18 23:19	15° Ω		max. Earth dist.	1938 Jan 29 00:57	9° \approx 12'00	6.07172 AU
	1932 Aug 11 07:16	0° $\overline{\eta}$		morning rise	1938 Feb 11 19:55	12° \approx 28'10	
evening set	1932 Aug 13 12:31	0° $\overline{\eta}$ 28'43			1938 Feb 22 15:27	15° \approx	
					1938 May 14 07:45	0° $\overline{\text{H}}$	
conjunction	1932 Aug 26 21:08	3° $\overline{\eta}$ 22'45	0°53'13	retrograde	1938 Jun 21 15:30	2° $\overline{\text{H}}$ 15'09	
minimum elong	1932 Aug 26 21:06	3° $\overline{\eta}$ 22'44	0°53'12		1938 Jul 30 03:02	30° \overline{R} \approx	
max. Earth dist.	1932 Aug 26 23:30	3° $\overline{\eta}$ 24'02	6.39729 AU	opposition	1938 Aug 21 00:21	27° \approx 17'33	-1°-12'-23
morning rise	1932 Sep 09 03:06	6° $\overline{\eta}$ 15'24		min. Earth dist.	1938 Aug 21 05:50	27° \approx 15'45	4.01320 AU
retrograde	1933 Jan 08 02:22	23° $\overline{\eta}$ 16'02		direct	1938 Oct 19 05:46	22° \approx 23'34	
opposition	1933 Mar 09 08:39	18° $\overline{\eta}$ 20'16	1°29'25		1938 Dec 29 18:34	0° $\overline{\text{H}}$	
min. Earth dist.	1933 Mar 09 15:59	18° $\overline{\eta}$ 17'53	4.43381 AU	evening set	1939 Feb 21 11:11	11° $\overline{\text{H}}$ 53'09	
direct	1933 May 10 10:21	13° $\overline{\eta}$ 17'25					
	1933 Sep 10 05:10	0° $\underline{\Delta}$		conjunction	1939 Mar 06 12:15	15° $\overline{\text{H}}$ 02'03	0°-59'-24
evening set	1933 Sep 14 04:49	0° $\underline{\Delta}$ 51'08		minimum elong	1939 Mar 06 12:14	15° $\overline{\text{H}}$ 02'02	0°59'25
max. Earth dist.	1933 Sep 26 04:37	3° $\underline{\Delta}$ 26'20	6.45211 AU	max. Earth dist.	1939 Mar 06 21:08	15° $\overline{\text{H}}$ 07'25	5.97153 AU
				morning rise	1939 Mar 19 16:01	18° $\overline{\text{H}}$ 12'32	
conjunction	1933 Sep 27 05:44	3° $\underline{\Delta}$ 39'55	1°05'56		1939 May 11 14:08	0° $\overline{\Upsilon}$	
minimum elong	1933 Sep 27 05:43	3° $\underline{\Delta}$ 39'54	1°05'56	retrograde	1939 Jul 29 21:01	8° $\overline{\Upsilon}$ 47'32	
morning rise	1933 Oct 10 03:56	6° $\underline{\Delta}$ 27'19		opposition	1939 Sep 27 19:06	3° $\overline{\Upsilon}$ 46'03	-1°-37'-49
retrograde	1934 Feb 07 06:19	23° $\underline{\Delta}$ 11'44		min. Earth dist.	1939 Sep 27 01:39	3° $\overline{\Upsilon}$ 51'53	3.95167 AU
opposition	1934 Apr 08 20:32	18° $\underline{\Delta}$ 18'38	1°35'05		1939 Oct 30 00:46	30° \overline{R} $\overline{\text{H}}$	
min. Earth dist.	1934 Apr 09 20:52	18° $\underline{\Delta}$ 10'48	4.45317 AU	direct	1939 Nov 24 21:17	28° $\overline{\text{H}}$ 52'16	
direct	1934 Jun 10 13:41	13° $\underline{\Delta}$ 16'28			1939 Dec 20 17:02	0° $\overline{\Upsilon}$	
	1934 Oct 11 04:55	0° $\overline{\text{M}}$		evening set	1940 Mar 29 12:36	18° $\overline{\Upsilon}$ 36'55	
evening set	1934 Oct 14 21:34	0° $\overline{\text{M}}$ 47'50					
max. Earth dist.	1934 Oct 25 22:25	3° $\overline{\text{M}}$ 11'51	6.43387 AU	conjunction	1940 Apr 11 21:35	21° $\overline{\Upsilon}$ 50'18	-1°-3'-50
				minimum elong	1940 Apr 11 21:36	21° $\overline{\Upsilon}$ 50'18	1°03'51
conjunction	1934 Oct 27 16:52	3° $\overline{\text{M}}$ 35'01	1°00'44	max. Earth dist.	1940 Apr 13 12:26	22° $\overline{\Upsilon}$ 13'44	5.95394 AU
minimum elong	1934 Oct 27 16:53	3° $\overline{\text{M}}$ 35'02	1°00'44	morning rise	1940 Apr 25 09:50	25° $\overline{\Upsilon}$ 05'19	
morning rise	1934 Nov 09 09:31	6° $\overline{\text{M}}$ 21'06			1940 May 16 07:54	0° $\overline{\text{B}}$	
	1934 Dec 21 15:03	15° $\overline{\text{M}}$			1940 Aug 15 04:43	15° $\overline{\text{B}}$	
retrograde	1935 Mar 10 02:47	23° $\overline{\text{M}}$ 17'49		retrograde	1940 Sep 04 13:00	15° $\overline{\text{B}}$ 40'48	
opposition	1935 May 10 00:20	18° $\overline{\text{M}}$ 25'54	1°15'24		1940 Sep 24 19:17	15° \overline{R} $\overline{\text{B}}$	
min. Earth dist.	1935 May 11 10:14	18° $\overline{\text{M}}$ 15'05	4.39876 AU	min. Earth dist.	1940 Nov 01 19:51	10° $\overline{\text{B}}$ 47'22	3.98125 AU
	1935 Jun 08 18:44	15° \overline{R} $\overline{\text{M}}$		opposition	1940 Nov 03 04:19	10° $\overline{\text{B}}$ 36'19	-1°-24'-14
direct	1935 Jul 11 15:39	13° $\overline{\text{M}}$ 25'20		direct	1940 Dec 31 01:20	5° $\overline{\text{B}}$ 40'33	
	1935 Aug 13 14:15	15° $\overline{\text{M}}$			1941 Mar 21 04:26	15° $\overline{\text{B}}$	
	1935 Nov 09 02:55	0° $\overline{\text{J}}$		evening set	1941 May 06 03:47	25° $\overline{\text{B}}$ 11'57	
evening set	1935 Nov 14 12:35	1° $\overline{\text{J}}$ 11'24					
max. Earth dist.	1935 Nov 25 02:44	3° $\overline{\text{J}}$ 32'48	6.34692 AU	conjunction	1941 May 19 19:59	28° $\overline{\text{B}}$ 25'14	0°-43'-13
				minimum elong	1941 May 19 20:01	28° $\overline{\text{B}}$ 25'15	0°43'14
conjunction	1935 Nov 27 04:44	4° $\overline{\text{J}}$ 00'44	0°38'47	max. Earth dist.	1941 May 22 03:39	28° $\overline{\text{B}}$ 58'03	6.02744 AU
minimum elong	1935 Nov 27 04:46	4° $\overline{\text{J}}$ 00'45	0°38'47		1941 May 26 12:48	0° $\overline{\text{I}}$	
morning rise	1935 Dec 09 19:25	6° $\overline{\text{J}}$ 49'32		morning rise	1941 Jun 02 14:11	1° $\overline{\text{I}}$ 39'22	
retrograde	1936 Apr 10 17:49	24° $\overline{\text{J}}$ 25'59		retrograde	1941 Oct 10 08:00	21° $\overline{\text{I}}$ 26'46	
opposition	1936 Jun 10 16:02	19° $\overline{\text{J}}$ 33'41	0°33'37	min. Earth dist.	1941 Dec 07 10:04	16° $\overline{\text{I}}$ 33'33	4.08980 AU
min. Earth dist.	1936 Jun 12 03:59	19° $\overline{\text{J}}$ 22'13	4.28374 AU	opposition	1941 Dec 08 20:12	16° $\overline{\text{I}}$ 21'55	0°-38'-51
direct	1936 Aug 11 14:59	14° $\overline{\text{J}}$ 35'20		direct	1942 Feb 05 10:02	11° $\overline{\text{I}}$ 23'09	
	1936 Dec 02 08:38	0° $\overline{\text{Z}}$			1942 Jun 10 10:36	0° $\overline{\text{G}}$	
evening set	1936 Dec 15 00:02	2° $\overline{\text{Z}}$ 51'11		evening set	1942 Jun 11 22:33	0° $\overline{\text{G}}$ 20'23	

conjunction	1942 Jun 25 16:43	3°♄28'30	0°-7'-21	direct	1948 Aug 16 00:40	19°♂06'01	
minimum elong	1942 Jun 25 16:44	3°♄28'31	0°07'23		1948 Nov 15 10:38	0°♂	
behind sun begin	1942 Jun 25 09:06	3°♄24'11		evening set	1948 Dec 19 11:04	7°♂28'34	
behind sun end	1942 Jun 26 00:21	3°♄32'50		desc. node	1948 Dec 26 14:41	9°♂07'27	
max. Earth dist.	1942 Jun 27 17:27	3°♄56'18	6.16106 AU	max. Earth dist.	1948 Dec 30 09:44	10°♂00'10	6.18828 AU
morning rise	1942 Jul 09 11:20	6°♄36'31					
asc. node	1942 Sep 09 17:44	19°♄18'30		conjunction	1949 Jan 01 03:36	10°♂24'25	0°00'-32
retrograde	1942 Nov 12 14:25	25°♄14'19		minimum elong	1949 Jan 01 03:34	10°♂24'24	0°00'32
min. Earth dist.	1943 Jan 10 05:56	20°♄20'13	4.23413 AU	behind sun begin	1948 Dec 31 19:36	10°♂19'48	
opposition	1943 Jan 11 07:12	20°♄11'41	0°17'15	behind sun end	1949 Jan 01 11:33	10°♂29'00	
direct	1943 Mar 12 02:11	15°♄10'19		morning rise	1949 Jan 13 20:11	13°♂20'34	
	1943 Jun 30 21:45	0°♂			1949 Apr 12 19:17	0°♂	
evening set	1943 Jul 16 22:20	3°♂28'43		retrograde	1949 May 20 15:34	2°♂10'21	
					1949 Jun 27 18:30	30°♂	
conjunction	1943 Jul 30 12:54	6°♂29'03	0°29'28	opposition	1949 Jul 20 08:07	27°♂15'42	0°-29'-4
minimum elong	1943 Jul 30 12:52	6°♂29'02	0°29'28	min. Earth dist.	1949 Jul 21 07:12	27°♂08'14	4.11501 AU
max. Earth dist.	1943 Jul 31 15:11	6°♂43'36	6.30455 AU	direct	1949 Sep 18 18:47	22°♂20'12	
morning rise	1943 Aug 13 01:54	9°♂28'23			1949 Nov 30 20:07	0°♂	
	1943 Sep 07 22:51	15°♂		evening set	1950 Jan 21 23:43	11°♂22'13	
retrograde	1943 Dec 13 23:25	27°♂03'43					
opposition	1944 Feb 11 22:12	22°♂04'46	1°04'33	conjunction	1950 Feb 03 19:41	14°♂25'24	0°-37'-8
min. Earth dist.	1944 Feb 11 14:09	22°♂07'26	4.36486 AU	minimum elong	1950 Feb 03 19:39	14°♂25'22	0°37'09
direct	1944 Apr 13 02:10	17°♂02'02		max. Earth dist.	1950 Feb 03 01:06	14°♂14'19	6.04932 AU
	1944 Jul 26 01:03	0°♂			1950 Feb 06 05:43	15°♂	
evening set	1944 Aug 17 22:58	4°♂49'40		morning rise	1950 Feb 16 17:14	17°♂29'40	
					1950 Apr 15 08:58	0°♂	
conjunction	1944 Aug 31 06:22	7°♂42'36	0°55'56	retrograde	1950 Jun 27 00:14	7°♂27'07	
minimum elong	1944 Aug 31 06:20	7°♂42'35	0°55'55	opposition	1950 Aug 26 07:13	2°♂29'03	-1°-17'-56
max. Earth dist.	1944 Aug 31 03:36	7°♂41'06	6.41236 AU	min. Earth dist.	1950 Aug 26 08:31	2°♂28'38	3.99578 AU
morning rise	1944 Sep 13 11:16	10°♂34'11			1950 Sep 15 02:23	30°♂	
retrograde	1945 Jan 12 04:51	27°♂29'49		direct	1950 Oct 24 06:34	27°♂35'19	
opposition	1945 Mar 13 12:32	22°♂34'25	1°31'36		1950 Dec 01 19:56	0°♂	
min. Earth dist.	1945 Mar 13 22:51	22°♂31'03	4.44374 AU	evening set	1951 Feb 26 15:19	17°♂10'03	
direct	1945 May 14 17:27	17°♂31'30					
	1945 Aug 25 06:05	0°♂		conjunction	1951 Mar 11 17:24	20°♂19'57	-1°-1'-32
evening set	1945 Sep 18 09:46	5°♂02'57		minimum elong	1951 Mar 11 17:23	20°♂19'56	1°01'33
max. Earth dist.	1945 Sep 30 06:38	7°♂36'28	6.45604 AU	max. Earth dist.	1951 Mar 12 06:56	20°♂28'09	5.96066 AU
				morning rise	1951 Mar 24 22:27	23°♂31'29	
conjunction	1945 Oct 01 09:53	7°♂51'12	1°06'14		1951 Apr 21 14:57	0°♂	
minimum elong	1945 Oct 01 09:53	7°♂51'12	1°06'13	retrograde	1951 Aug 04 06:53	14°♂10'46	
morning rise	1945 Oct 14 06:59	10°♂38'04		min. Earth dist.	1951 Oct 02 07:23	9°♂15'41	3.94871 AU
retrograde	1946 Feb 11 08:26	27°♂22'00		opposition	1951 Oct 03 04:07	9°♂08'42	-1°-38'-15
opposition	1946 Apr 13 00:33	22°♂29'07	1°33'47	direct	1951 Nov 30 04:08	4°♂14'46	
min. Earth dist.	1946 Apr 14 02:36	22°♂20'46	4.45085 AU	evening set	1952 Apr 03 21:02	23°♂59'34	
direct	1946 Jun 14 18:05	17°♂27'07					
	1946 Sep 25 10:19	0°♂		conjunction	1952 Apr 17 07:21	27°♂13'18	-1°-2'-16
evening set	1946 Oct 19 00:54	4°♂59'21		minimum elong	1952 Apr 17 07:22	27°♂13'19	1°02'16
max. Earth dist.	1946 Oct 29 21:34	7°♂21'29	6.42527 AU	max. Earth dist.	1952 Apr 19 03:53	27°♂40'06	5.95911 AU
					1952 Apr 28 20:50	0°♂	
conjunction	1946 Oct 31 19:28	7°♂46'37	0°58'38	morning rise	1952 Apr 30 20:33	0°♂28'31	
minimum elong	1946 Oct 31 19:29	7°♂46'37	0°58'38		1952 Jul 08 01:08	15°♂	
morning rise	1946 Nov 13 11:49	10°♂32'53		retrograde	1952 Sep 09 19:40	20°♂59'26	
	1946 Dec 04 08:38	15°♂		min. Earth dist.	1952 Nov 06 23:46	16°♂06'05	3.99374 AU
retrograde	1947 Mar 14 11:36	27°♂33'47		opposition	1952 Nov 08 09:09	15°♂54'43	-1°-19'-14
opposition	1947 May 14 08:16	22°♂41'55	1°10'51		1952 Nov 15 02:45	15°♂	
min. Earth dist.	1947 May 15 20:26	22°♂30'23	4.38419 AU	direct	1953 Jan 05 07:52	10°♂58'34	
direct	1947 Jul 15 22:53	17°♂41'32			1953 Feb 24 15:00	15°♂	
	1947 Oct 24 02:59	0°♂		evening set	1953 May 09 15:33	0°♂	
evening set	1947 Nov 18 17:47	5°♂31'45			1953 May 11 10:58	0°♂25'20	
max. Earth dist.	1947 Nov 29 07:16	7°♂53'23	6.32749 AU				
				conjunction	1953 May 25 03:38	3°♂38'00	0°-38'-42
conjunction	1947 Dec 01 09:59	8°♂21'50	0°34'41	minimum elong	1953 May 25 03:40	3°♂38'02	0°38'42
minimum elong	1947 Dec 01 10:01	8°♂21'51	0°34'40	max. Earth dist.	1953 May 27 11:23	4°♂10'43	6.04561 AU
morning rise	1947 Dec 14 00:41	11°♂11'27		morning rise	1953 Jun 07 22:22	6°♂11'28	
retrograde	1948 Apr 15 08:34	28°♂56'29		retrograde	1953 Oct 15 02:56	26°♂28'40	
opposition	1948 Jun 15 06:56	24°♂04'00	0°26'35	min. Earth dist.	1953 Dec 12 06:25	21°♂35'39	4.11143 AU
min. Earth dist.	1948 Jun 16 17:32	23°♂52'58	4.26062 AU	opposition	1953 Dec 13 16:41	21°♂23'58	0°-31'00

direct	1954 Feb 10 09:27	16° Π 24'47		min. Earth dist.	1959 May 20 08:10	26° \mathbb{M} 56'01	4.36830 AU
	1954 May 24 04:43	0° \mathfrak{G}		direct	1959 Jul 20 07:59	22° \mathbb{M} 07'29	
evening set	1954 Jun 16 23:41	5° \mathfrak{G} 15'37			1959 Oct 05 14:39	0° \mathfrak{Z}	
				evening set	1959 Nov 23 02:33	10° \mathfrak{Z} 01'59	
conjunction	1954 Jun 30 17:38	8° \mathfrak{G} 22'36	0°-1'-54	max. Earth dist.	1959 Dec 03 15:26	12° \mathfrak{Z} 24'00	6.30811 AU
minimum elong	1954 Jun 30 17:39	8° \mathfrak{G} 22'36	0°01'55				
behind sun begin	1954 Jun 30 09:16	8° \mathfrak{G} 17'52		conjunction	1959 Dec 05 18:30	12° \mathfrak{Z} 52'47	0°30'13
behind sun end	1954 Jul 01 02:01	8° \mathfrak{G} 27'20		minimum elong	1959 Dec 05 18:32	12° \mathfrak{Z} 52'47	0°30'13
max. Earth dist.	1954 Jul 02 15:36	8° \mathfrak{G} 48'42	6.18427 AU	morning rise	1959 Dec 18 09:25	15° \mathfrak{Z} 43'15	
morning rise	1954 Jul 14 11:39	11° \mathfrak{G} 29'19			1960 Mar 01 13:10	0° \mathfrak{Z}	
asc. node	1954 Jul 20 03:03	12° \mathfrak{G} 45'08		retrograde	1960 Apr 20 04:55	3° \mathfrak{Z} 36'56	
retrograde	1954 Nov 17 03:02	29° \mathfrak{G} 56'35			1960 Jun 10 01:53	30° \mathbb{R} \mathfrak{Z}	
opposition	1955 Jan 15 20:01	24° \mathfrak{G} 54'27	0°24'48	opposition	1960 Jun 20 01:57	28° \mathfrak{Z} 44'15	0°19'05
min. Earth dist.	1955 Jan 14 21:41	25° \mathfrak{G} 01'58	4.25661 AU	min. Earth dist.	1960 Jun 21 12:09	28° \mathfrak{Z} 33'18	4.23894 AU
direct	1955 Mar 16 20:38	19° \mathfrak{G} 52'50		direct	1960 Aug 20 16:40	23° \mathfrak{Z} 46'34	
	1955 Jun 13 00:06	0° \mathcal{Q}			1960 Oct 26 03:00	0° \mathfrak{Z}	
evening set	1955 Jul 21 15:49	8° \mathcal{Q} 05'29		desc. node	1960 Nov 05 00:35	1° \mathfrak{Z} 46'25	
				evening set	1960 Dec 24 01:28	12° \mathfrak{Z} 15'04	
conjunction	1955 Aug 04 05:31	11° \mathcal{Q} 04'36	0°33'59	max. Earth dist.	1961 Jan 04 03:25	14° \mathfrak{Z} 49'18	6.16640 AU
minimum elong	1955 Aug 04 05:29	11° \mathcal{Q} 04'35	0°33'58				
max. Earth dist.	1955 Aug 05 03:53	11° \mathcal{Q} 16'56	6.32449 AU	conjunction	1961 Jan 05 18:24	15° \mathfrak{Z} 11'59	0°-5'-57
morning rise	1955 Aug 17 17:29	14° \mathcal{Q} 02'40		minimum elong	1961 Jan 05 18:24	15° \mathfrak{Z} 11'59	0°05'57
	1955 Aug 22 02:42	15° \mathcal{Q}		behind sun begin	1961 Jan 05 10:46	15° \mathfrak{Z} 07'34	
	1955 Nov 17 03:58	0° \mathfrak{M}		behind sun end	1961 Jan 06 02:03	15° \mathfrak{Z} 16'24	
retrograde	1955 Dec 18 04:30	1° \mathfrak{M} 30'24		morning rise	1961 Jan 18 11:31	18° \mathfrak{Z} 09'18	
	1956 Jan 18 02:04	30° \mathbb{R} \mathcal{Q}			1961 Mar 15 08:01	0° \approx	
opposition	1956 Feb 16 05:38	26° \mathcal{Q} 31'58	1°09'42	retrograde	1961 May 25 18:35	7° \approx 09'14	
min. Earth dist.	1956 Feb 15 23:44	26° \mathcal{Q} 33'55	4.38107 AU	opposition	1961 Jul 25 10:37	2° \approx 14'12	0°-36'-53
direct	1956 Apr 17 12:59	21° \mathcal{Q} 29'09		min. Earth dist.	1961 Jul 26 06:15	2° \approx 07'51	4.09506 AU
	1956 Jul 07 19:01	0° \mathfrak{M}			1961 Aug 12 08:54	30° \mathbb{R} \mathfrak{Z}	
evening set	1956 Aug 22 09:58	9° \mathfrak{M} 13'11		direct	1961 Sep 23 15:27	27° \mathfrak{Z} 19'04	
					1961 Nov 04 02:49	0° \approx	
conjunction	1956 Sep 04 16:18	12° \mathfrak{M} 05'14	0°58'24		1962 Jan 20 19:04	15° \approx	
minimum elong	1956 Sep 04 16:16	12° \mathfrak{M} 05'13	0°58'24	evening set	1962 Jan 26 21:35	16° \approx 26'34	
max. Earth dist.	1956 Sep 04 09:52	12° \mathfrak{M} 01'45	6.42369 AU				
morning rise	1956 Sep 17 19:56	14° \mathfrak{M} 55'53		conjunction	1962 Feb 08 18:08	19° \approx 30'44	0°-41'-39
	1956 Dec 13 02:17	0° \mathfrak{A}		minimum elong	1962 Feb 08 18:05	19° \approx 30'43	0°41'39
retrograde	1957 Jan 16 09:22	1° \mathfrak{A} 47'59		max. Earth dist.	1962 Feb 08 03:44	19° \approx 22'07	6.03318 AU
	1957 Feb 19 15:38	30° \mathbb{R} \mathfrak{M}		morning rise	1962 Feb 21 16:38	22° \approx 36'07	
opposition	1957 Mar 17 18:01	26° \mathfrak{M} 53'03	1°33'25		1962 Mar 25 22:07	0° \mathfrak{H}	
min. Earth dist.	1957 Mar 18 07:15	26° \mathfrak{M} 48'45	4.44968 AU	retrograde	1962 Jul 02 08:58	12° \mathfrak{H} 41'24	
direct	1957 May 19 02:20	21° \mathfrak{M} 50'14		opposition	1962 Aug 31 14:48	7° \mathfrak{H} 42'42	-1°-22'-56
	1957 Aug 07 02:11	0° \mathfrak{A}		min. Earth dist.	1962 Aug 31 12:30	7° \mathfrak{H} 43'27	3.98533 AU
evening set	1957 Sep 22 16:53	9° \mathfrak{A} 20'43		direct	1962 Oct 29 10:32	2° \mathfrak{H} 49'01	
max. Earth dist.	1957 Oct 04 08:07	11° \mathfrak{A} 51'21	6.45598 AU	evening set	1963 Mar 03 19:08	22° \mathfrak{H} 26'03	
conjunction	1957 Oct 05 16:00	12° \mathfrak{A} 08'36	1°06'13	conjunction	1963 Mar 16 22:23	25° \mathfrak{H} 36'36	-1°-3'-12
minimum elong	1957 Oct 05 16:00	12° \mathfrak{A} 08'36	1°06'12	minimum elong	1963 Mar 16 22:22	25° \mathfrak{H} 36'36	1°03'13
morning rise	1957 Oct 18 12:25	14° \mathfrak{A} 55'11		max. Earth dist.	1963 Mar 17 18:26	25° \mathfrak{H} 48'45	5.95695 AU
	1958 Jan 13 12:51	0° \mathbb{M}		morning rise	1963 Mar 30 04:24	28° \mathfrak{H} 48'46	
retrograde	1958 Feb 15 14:58	1° \mathbb{M} 39'54			1963 Apr 04 03:19	0° \mathbb{Y}	
	1958 Mar 20 19:14	30° \mathbb{R} \mathfrak{A}		retrograde	1963 Aug 09 15:26	19° \mathbb{Y} 28'57	
opposition	1958 Apr 17 07:32	26° \mathfrak{A} 47'13	1°32'01	opposition	1963 Oct 08 10:59	14° \mathbb{Y} 26'24	-1°-37'-52
min. Earth dist.	1958 Apr 18 11:51	26° \mathfrak{A} 38'08	4.44504 AU	min. Earth dist.	1963 Oct 07 12:07	14° \mathbb{Y} 34'06	3.95245 AU
direct	1958 Jun 19 01:44	21° \mathfrak{A} 45'20		direct	1963 Dec 05 10:11	9° \mathbb{Y} 32'16	
	1958 Sep 07 08:52	0° \mathbb{M}		evening set	1964 Apr 09 03:10	29° \mathbb{Y} 14'46	
evening set	1958 Oct 23 06:58	9° \mathbb{M} 19'25			1964 Apr 12 06:52	0° \mathfrak{B}	
max. Earth dist.	1958 Nov 03 02:44	11° \mathbb{M} 41'26	6.41407 AU				
				conjunction	1964 Apr 22 14:20	2° \mathfrak{B} 28'25	-1°00'-14
conjunction	1958 Nov 05 01:13	12° \mathbb{M} 06'57	0°56'10	minimum elong	1964 Apr 22 14:21	2° \mathfrak{B} 28'27	1°00'16
minimum elong	1958 Nov 05 01:14	12° \mathbb{M} 06'57	0°56'10	max. Earth dist.	1964 Apr 24 12:50	2° \mathfrak{B} 56'19	5.96956 AU
morning rise	1958 Nov 17 17:01	14° \mathbb{M} 53'29		morning rise	1964 May 06 04:38	5° \mathfrak{B} 43'35	
	1958 Nov 18 04:57	15° \mathbb{M}			1964 Jun 16 03:50	15° \mathfrak{B}	
	1959 Feb 10 13:45	0° \mathfrak{Z}		retrograde	1964 Sep 14 19:01	26° \mathfrak{B} 07'44	
retrograde	1959 Mar 18 22:09	1° \mathfrak{Z} 59'24		min. Earth dist.	1964 Nov 11 22:38	21° \mathfrak{B} 14'44	4.00972 AU
	1959 Apr 24 14:11	30° \mathbb{R} \mathbb{M}		opposition	1964 Nov 13 09:35	21° \mathfrak{B} 02'49	-1°-13'-47
opposition	1959 May 18 20:00	27° \mathbb{M} 07'32	1°05'45	direct	1965 Jan 10 09:33	16° \mathfrak{B} 06'13	

	1965 Apr 22 14:32	0°♂			1970 Apr 30 06:44	30°♂	
evening set	1965 May 16 14:02	5°♂27'32		direct	1970 Jun 23 09:44	26°♂04'15	
					1970 Aug 15 17:57	0°♂	
conjunction	1965 May 30 07:12	8°♂39'30	0°-34'-2	evening set	1970 Oct 27 13:40	13°♂40'58	
minimum elong	1965 May 30 07:14	8°♂39'31	0°34'03		1970 Nov 02 13:58	15°♂	
max. Earth dist.	1965 Jun 01 14:14	9°♂11'39	6.06559 AU	max. Earth dist.	1970 Nov 07 06:30	16°♂01'55	6.40096 AU
morning rise	1965 Jun 13 02:05	11°♂52'05					
	1965 Sep 21 04:39	0°♂		conjunction	1970 Nov 09 07:21	16°♂28'49	0°53'22
retrograde	1965 Oct 19 19:32	1°♂18'59		minimum elong	1970 Nov 09 07:23	16°♂28'50	0°53'22
	1965 Nov 17 03:08	30°♂♂		morning rise	1970 Nov 21 23:00	19°♂15'49	
min. Earth dist.	1965 Dec 17 01:06	26°♂25'25	4.13301 AU		1971 Jan 14 08:49	0°♂	
opposition	1965 Dec 18 09:08	26°♂14'31	0°-23'-14	retrograde	1971 Mar 23 11:33	6°♂27'25	
direct	1966 Feb 15 06:57	21°♂14'56		opposition	1971 May 23 08:59	1°♂35'32	1°00'14
	1966 May 05 14:52	0°♂		min. Earth dist.	1971 May 24 21:23	1°♂23'56	4.35176 AU
asc. node	1966 May 30 20:25	5°♂08'38			1971 Jun 05 02:12	30°♂♂	
evening set	1966 Jun 21 20:24	9°♂59'38		direct	1971 Jul 24 19:09	26°♂35'48	
					1971 Sep 11 15:33	0°♂	
conjunction	1966 Jul 05 14:05	13°♂05'33	0°03'29	evening set	1971 Nov 27 12:05	14°♂34'40	
minimum elong	1966 Jul 05 14:05	13°♂05'33	0°03'29	max. Earth dist.	1971 Dec 08 03:24	16°♂58'37	6.28963 AU
behind sun begin	1966 Jul 05 05:48	13°♂00'53					
behind sun end	1966 Jul 05 22:23	13°♂10'13		conjunction	1971 Dec 10 04:10	17°♂26'13	0°25'33
max. Earth dist.	1966 Jul 07 09:49	13°♂30'15	6.20565 AU	minimum elong	1971 Dec 10 04:11	17°♂26'14	0°25'33
morning rise	1966 Jul 19 07:29	16°♂11'03		morning rise	1971 Dec 22 19:04	20°♂17'29	
	1966 Sep 27 13:19	0°♂			1972 Feb 06 19:37	0°♂	
retrograde	1966 Nov 21 10:22	4°♂28'57		retrograde	1972 Apr 25 00:18	8°♂19'24	
	1967 Jan 16 03:50	30°♂♂		opposition	1972 Jun 24 21:43	3°♂26'31	0°11'24
min. Earth dist.	1967 Jan 19 08:30	29°♂34'19	4.27604 AU	min. Earth dist.	1972 Jun 26 06:03	3°♂16'10	4.21971 AU
opposition	1967 Jan 20 05:17	29°♂27'20	0°31'55		1972 Jul 24 16:43	30°♂♂	
direct	1967 Mar 21 09:15	24°♂25'31		direct	1972 Aug 25 08:01	28°♂29'16	
	1967 May 23 08:20	0°♂		desc. node	1972 Sep 14 15:49	29°♂07'48	
evening set	1967 Jul 26 06:07	12°♂33'39			1972 Sep 25 18:19	0°♂	
	1967 Aug 06 09:06	15°♂		evening set	1972 Dec 28 16:13	17°♂02'41	
				max. Earth dist.	1973 Jan 08 20:38	19°♂39'03	6.14794 AU
conjunction	1967 Aug 08 18:49	15°♂31'43	0°38'10				
minimum elong	1967 Aug 08 18:47	15°♂31'42	0°38'09	conjunction	1973 Jan 10 09:19	20°♂00'29	0°-11'-15
max. Earth dist.	1967 Aug 09 11:58	15°♂41'09	6.34053 AU	minimum elong	1973 Jan 10 09:18	20°♂00'28	0°11'17
morning rise	1967 Aug 22 05:46	18°♂28'41		behind sun begin	1973 Jan 10 03:21	19°♂57'00	
	1967 Oct 19 10:51	0°♂		behind sun end	1973 Jan 10 15:15	20°♂03'56	
retrograde	1967 Dec 22 10:02	5°♂50'28		morning rise	1973 Jan 23 03:05	22°♂58'50	
opposition	1968 Feb 20 11:02	0°♂52'38	1°14'20		1973 Feb 23 09:28	0°♂	
min. Earth dist.	1968 Feb 20 08:53	0°♂53'21	4.39277 AU	retrograde	1973 May 30 22:10	12°♂07'47	
	1968 Feb 27 03:33	30°♂♂		opposition	1973 Jul 30 12:49	7°♂12'15	0°-44'-26
direct	1968 Apr 21 23:26	25°♂49'46		min. Earth dist.	1973 Jul 31 05:35	7°♂06'48	4.07870 AU
	1968 Jun 15 14:43	0°♂		direct	1973 Sep 28 13:26	2°♂17'22	
evening set	1968 Aug 26 19:02	13°♂31'43			1974 Jan 03 16:24	15°♂	
				evening set	1974 Jan 31 18:29	21°♂29'03	
conjunction	1968 Sep 09 00:26	16°♂23'08	1°00'30				
minimum elong	1968 Sep 09 00:25	16°♂23'07	1°00'30	conjunction	1974 Feb 13 15:53	24°♂34'07	0°-45'-48
max. Earth dist.	1968 Sep 08 14:05	16°♂17'32	6.43014 AU	minimum elong	1974 Feb 13 15:51	24°♂34'06	0°45'49
morning rise	1968 Sep 22 03:02	19°♂13'08		max. Earth dist.	1974 Feb 13 07:04	24°♂28'50	6.02042 AU
	1968 Nov 15 22:44	0°♂		morning rise	1974 Feb 26 15:07	27°♂40'25	
retrograde	1969 Jan 20 12:29	6°♂03'25			1974 Mar 08 11:11	0°♂	
opposition	1969 Mar 21 22:53	1°♂08'54	1°34'43	retrograde	1974 Jul 07 16:13	17°♂52'01	
min. Earth dist.	1969 Mar 22 13:57	1°♂04'01	4.45092 AU	opposition	1974 Sep 05 20:18	12°♂52'48	-1°-27'-13
	1969 Mar 30 21:37	30°♂♂		min. Earth dist.	1974 Sep 05 15:25	12°♂54'25	3.97761 AU
direct	1969 May 23 08:20	26°♂06'12		direct	1974 Nov 03 12:12	7°♂59'13	
	1969 Jul 15 13:30	0°♂		evening set	1975 Mar 08 21:34	27°♂37'55	
evening set	1969 Sep 26 23:15	13°♂37'09			1975 Mar 18 16:47	0°♂	
max. Earth dist.	1969 Oct 08 11:59	16°♂06'39	6.45198 AU				
				conjunction	1975 Mar 22 01:41	0°♂49'00	-1°-4'-21
conjunction	1969 Oct 09 21:38	16°♂24'53	1°05'50	minimum elong	1975 Mar 22 01:40	0°♂48'59	1°04'21
minimum elong	1969 Oct 09 21:38	16°♂24'53	1°05'50	max. Earth dist.	1975 Mar 23 00:25	1°♂02'46	5.95475 AU
morning rise	1969 Oct 22 17:11	19°♂11'20		morning rise	1975 Apr 04 08:59	4°♂01'47	
	1969 Dec 16 15:55	0°♂		retrograde	1975 Aug 14 19:32	24°♂42'13	
retrograde	1970 Feb 19 21:58	5°♂58'12		opposition	1975 Oct 13 14:59	19°♂39'13	-1°-36'-44
opposition	1970 Apr 21 15:14	1°♂05'49	1°29'45	min. Earth dist.	1975 Oct 12 13:07	19°♂47'57	3.95623 AU
min. Earth dist.	1970 Apr 22 21:10	0°♂56'15	4.43615 AU	direct	1975 Dec 10 12:39	14°♂44'48	

	1976 Mar 26 10:25	0°♄		evening set	1981 Oct 01 07:10	17°♅57'35	
evening set	1976 Apr 14 07:20	4°♄25'31		max. Earth dist.	1981 Oct 12 16:43	20°♅25'33	6.44940 AU
conjunction	1976 Apr 27 19:35	7°♄39'13	0°-57'-48	conjunction	1981 Oct 14 04:46	20°♅45'07	1°05'08
minimum elong	1976 Apr 27 19:37	7°♄39'15	0°57'49	minimum elong	1981 Oct 14 04:47	20°♅45'07	1°05'08
max. Earth dist.	1976 Apr 29 20:22	8°♄08'24	5.97890 AU	morning rise	1981 Oct 26 23:36	23°♅31'23	
morning rise	1976 May 11 10:41	10°♄54'18			1981 Nov 27 02:19	0°♄	
	1976 May 28 23:27	15°♄		retrograde	1982 Feb 24 05:42	10°♄19'47	
	1976 Aug 23 10:24	0°♄		opposition	1982 Apr 26 00:28	5°♄27'31	1°27'01
retrograde	1976 Sep 19 18:39	1°♄12'29		min. Earth dist.	1982 Apr 27 06:41	5°♄17'51	4.42999 AU
	1976 Oct 16 20:24	30°♄		direct	1982 Jun 27 18:16	0°♄26'11	
min. Earth dist.	1976 Nov 16 22:01	26°♄19'07	4.02336 AU		1982 Oct 17 15:31	15°♄	
opposition	1976 Nov 18 08:16	26°♄07'26	-1°-7'-53	evening set	1982 Oct 31 20:57	18°♄04'17	
direct	1977 Jan 15 10:56	21°♄10'24		max. Earth dist.	1982 Nov 11 14:34	20°♄25'59	6.39185 AU
	1977 Apr 03 15:42	0°♄					
evening set	1977 May 21 15:56	10°♄27'22		conjunction	1982 Nov 13 14:15	20°♄52'19	0°50'18
				minimum elong	1982 Nov 13 14:16	20°♄52'20	0°50'18
conjunction	1977 Jun 04 09:35	13°♄38'47	0°-29'-11	morning rise	1982 Nov 26 05:26	23°♄39'31	
minimum elong	1977 Jun 04 09:37	13°♄38'48	0°29'12		1982 Dec 26 01:57	0°♄	
max. Earth dist.	1977 Jun 06 16:51	14°♄10'55	6.08231 AU	retrograde	1983 Mar 27 23:56	10°♄55'25	
morning rise	1977 Jun 18 04:38	16°♄50'39		opposition	1983 May 27 22:29	6°♄03'31	0°54'24
	1977 Aug 20 12:42	0°♄		min. Earth dist.	1983 May 29 10:51	5°♄51'57	4.34017 AU
retrograde	1977 Oct 24 10:13	6°♄08'31		direct	1983 Jul 29 07:04	1°♄04'09	
min. Earth dist.	1977 Dec 21 17:09	1°♄15'03	4.15107 AU	evening set	1983 Dec 01 20:59	19°♄05'24	
opposition	1977 Dec 23 00:40	1°♄04'21	0°-15'-23	max. Earth dist.	1983 Dec 12 12:07	21°♄29'45	6.27645 AU
	1977 Dec 30 23:50	30°♄					
direct	1978 Feb 20 01:24	26°♄04'23		conjunction	1983 Dec 14 12:48	21°♄57'23	0°20'50
asc. node	1978 Apr 10 05:29	29°♄44'57		minimum elong	1983 Dec 14 12:49	21°♄57'24	0°20'50
	1978 Apr 12 00:12	0°♄		morning rise	1983 Dec 27 03:58	24°♄49'16	
evening set	1978 Jun 26 17:27	14°♄44'24			1984 Jan 19 15:04	0°♄	
				retrograde	1984 Apr 29 18:37	12°♄57'44	
conjunction	1978 Jul 10 10:38	17°♄49'20	0°08'43	opposition	1984 Jun 29 16:12	8°♄04'31	0°03'50
minimum elong	1978 Jul 10 10:37	17°♄49'20	0°08'43	min. Earth dist.	1984 Jun 30 22:41	7°♄54'45	4.20569 AU
behind sun begin	1978 Jul 10 03:28	17°♄45'19		desc. node	1984 Jul 27 01:47	4°♄51'21	
behind sun end	1978 Jul 10 17:47	17°♄53'20		direct	1984 Aug 29 23:02	3°♄07'34	
max. Earth dist.	1978 Jul 12 01:48	18°♄11'23	6.22353 AU	evening set	1985 Jan 02 04:47	21°♄44'09	
morning rise	1978 Jul 24 03:30	20°♄53'47					
	1978 Sep 05 08:30	0°♄		conjunction	1985 Jan 14 22:19	24°♄42'38	0°-16'-20
retrograde	1978 Nov 25 20:30	9°♄03'35		minimum elong	1985 Jan 14 22:19	24°♄42'37	0°16'21
opposition	1979 Jan 24 15:18	4°♄02'26	0°38'53	max. Earth dist.	1985 Jan 13 13:43	24°♄23'31	6.13438 AU
min. Earth dist.	1979 Jan 23 21:42	4°♄08'20	4.29221 AU	morning rise	1985 Jan 27 16:24	27°♄41'44	
	1979 Feb 28 23:35	30°♄			1985 Feb 06 15:35	0°♄	
direct	1979 Mar 26 00:55	29°♄00'20			1985 Apr 30 01:53	15°♄	
	1979 Apr 20 08:29	0°♄		retrograde	1985 Jun 04 22:24	16°♄57'50	
	1979 Jul 21 06:11	15°♄			1985 Jul 10 21:36	15°♄	
evening set	1979 Jul 30 21:13	17°♄04'54		opposition	1985 Aug 04 11:41	12°♄01'54	0°-51'-23
				min. Earth dist.	1985 Aug 05 02:39	11°♄57'02	4.06678 AU
conjunction	1979 Aug 13 09:12	20°♄02'05	0°42'10	direct	1985 Oct 03 08:17	7°♄07'16	
minimum elong	1979 Aug 13 09:09	20°♄02'04	0°42'11		1985 Dec 15 22:57	15°♄	
max. Earth dist.	1979 Aug 13 23:49	20°♄10'06	6.35382 AU	evening set	1986 Feb 05 12:11	26°♄21'50	
morning rise	1979 Aug 26 18:57	22°♄58'02					
	1979 Sep 29 10:23	0°♄		conjunction	1986 Feb 18 10:06	29°♄27'34	0°-49'-28
retrograde	1979 Dec 26 14:59	10°♄14'41		minimum elong	1986 Feb 18 10:04	29°♄27'33	0°49'29
opposition	1980 Feb 24 18:02	5°♄17'20	1°18'39	max. Earth dist.	1986 Feb 18 03:25	29°♄23'33	6.01102 AU
min. Earth dist.	1980 Feb 24 17:18	5°♄17'35	4.40254 AU		1986 Feb 20 16:05	0°♄	
direct	1980 Apr 26 08:47	0°♄14'28		morning rise	1986 Mar 03 10:23	2°♄34'43	
evening set	1980 Aug 31 05:40	17°♄54'38		retrograde	1986 Jul 12 17:01	22°♄51'26	
				opposition	1986 Sep 10 21:15	17°♄51'42	-1°-30'-41
conjunction	1980 Sep 13 09:55	20°♄45'23	1°02'19	min. Earth dist.	1986 Sep 10 13:06	17°♄54'24	3.97190 AU
minimum elong	1980 Sep 13 09:54	20°♄45'22	1°02'19	direct	1986 Nov 08 09:27	12°♄58'06	
max. Earth dist.	1980 Sep 12 19:41	20°♄37'41	6.43578 AU		1987 Mar 02 18:41	0°♄	
morning rise	1980 Sep 26 11:30	23°♄34'45		evening set	1987 Mar 13 19:39	2°♄38'07	
	1980 Oct 27 10:10	0°♄					
retrograde	1981 Jan 24 19:23	10°♄23'21		conjunction	1987 Mar 27 00:55	5°♄49'46	-1°-4'-58
opposition	1981 Mar 26 05:54	5°♄29'14	1°35'34	minimum elong	1987 Mar 27 00:55	5°♄49'46	1°04'59
min. Earth dist.	1981 Mar 26 23:42	5°♄23'30	4.45245 AU	max. Earth dist.	1987 Mar 28 03:45	6°♄06'01	5.95325 AU
direct	1981 May 27 18:26	0°♄26'42		morning rise	1987 Apr 09 09:09	9°♄03'05	

retrograde	1987 Aug 19 21:07	29° Υ 43'51		evening set	1993 Oct 05 13:32	22° $\underline{\Delta}$ 15'55	
opposition	1987 Oct 18 14:32	24° Υ 40'30	-1°-34'-57	max. Earth dist.	1993 Oct 16 20:07	24° $\underline{\Delta}$ 42'29	6.44678 AU
min. Earth dist.	1987 Oct 17 12:16	24° Υ 49'23	3.95915 AU				
direct	1987 Dec 15 12:22	19° Υ 45'50		conjunction	1993 Oct 18 10:16	25° $\underline{\Delta}$ 03'13	1°04'03
	1988 Mar 08 15:44	0° \mathcal{B}		minimum elong	1993 Oct 18 10:17	25° $\underline{\Delta}$ 03'14	1°04'03
evening set	1988 Apr 19 07:42	9° \mathcal{B} 25'33		morning rise	1993 Oct 31 04:26	27° $\underline{\Delta}$ 49'19	
					1993 Nov 10 08:15	0° \mathcal{M}	
conjunction	1988 May 02 20:59	12° \mathcal{B} 39'25	0°-55'-3	retrograde	1994 Feb 28 13:50	14° \mathcal{M} 39'22	
minimum elong	1988 May 02 21:02	12° \mathcal{B} 39'26	0°55'03	opposition	1994 Apr 30 08:55	9° \mathcal{M} 47'14	1°23'47
max. Earth dist.	1988 May 04 23:42	13° \mathcal{B} 09'40	5.98600 AU	min. Earth dist.	1994 May 01 17:17	9° \mathcal{M} 36'55	4.42273 AU
	1988 May 12 16:57	15° \mathcal{B}		direct	1994 Jul 02 03:33	4° \mathcal{M} 46'05	
morning rise	1988 May 16 13:00	15° \mathcal{B} 54'34			1994 Sep 30 15:19	15° \mathcal{M}	
	1988 Jul 22 00:00	0° Π		evening set	1994 Nov 05 02:54	22° \mathcal{M} 25'51	
retrograde	1988 Sep 24 13:58	6° Π 07'48		max. Earth dist.	1994 Nov 15 18:19	24° \mathcal{M} 46'46	6.38024 AU
min. Earth dist.	1988 Nov 21 16:12	1° Π 14'42	4.03397 AU				
opposition	1988 Nov 23 03:04	1° Π 02'49	-1°-1'-46	conjunction	1994 Nov 17 19:48	25° \mathcal{M} 14'11	0°46'57
	1988 Nov 30 20:53	30° $\mathcal{R}\mathcal{B}$		minimum elong	1994 Nov 17 19:50	25° \mathcal{M} 14'12	0°46'57
direct	1989 Jan 20 06:12	26° \mathcal{B} 05'28		morning rise	1994 Nov 30 10:50	28° \mathcal{M} 01'46	
	1989 Mar 11 03:26	0° Π			1994 Dec 09 10:54	0° \mathcal{J}	
evening set	1989 May 26 15:14	15° Π 19'44		retrograde	1995 Apr 01 12:03	15° \mathcal{J} 23'01	
				opposition	1995 Jun 01 11:22	10° \mathcal{J} 30'57	0°48'13
conjunction	1989 Jun 09 09:10	18° Π 30'43	0°-24'-18	min. Earth dist.	1995 Jun 02 23:08	10° \mathcal{J} 19'33	4.32471 AU
minimum elong	1989 Jun 09 09:11	18° Π 30'44	0°24'19	direct	1995 Aug 02 16:44	5° \mathcal{J} 31'49	
max. Earth dist.	1989 Jun 11 13:49	19° Π 01'13	6.09553 AU	evening set	1995 Dec 06 05:45	23° \mathcal{J} 37'00	
morning rise	1989 Jun 23 04:30	21° Π 42'04		max. Earth dist.	1995 Dec 16 23:15	26° \mathcal{J} 03'14	6.25839 AU
	1989 Jul 30 23:50	0° \mathcal{E}					
retrograde	1989 Oct 29 00:03	10° \mathcal{E} 52'38		conjunction	1995 Dec 18 21:43	26° \mathcal{J} 29'44	0°15'55
min. Earth dist.	1989 Dec 26 08:31	5° \mathcal{E} 58'53	4.16549 AU	minimum elong	1995 Dec 18 21:44	26° \mathcal{J} 29'45	0°15'55
opposition	1989 Dec 27 14:16	5° \mathcal{E} 48'46	0°-7'-43	behind sun begin	1995 Dec 18 20:02	26° \mathcal{J} 28'47	
asc. node	1990 Feb 19 20:20	0° \mathcal{E} 50'57		behind sun end	1995 Dec 18 23:26	26° \mathcal{J} 30'43	
direct	1990 Feb 24 19:14	0° \mathcal{E} 48'29		morning rise	1995 Dec 31 12:57	29° \mathcal{J} 22'25	
evening set	1990 Jul 01 12:33	19° \mathcal{E} 25'09			1996 Jan 03 07:22	0° \mathcal{Z}	
				retrograde	1996 May 04 15:37	17° \mathcal{Z} 39'19	
conjunction	1990 Jul 15 05:32	22° \mathcal{E} 29'20	0°13'46	desc. node	1996 Jun 06 12:18	16° \mathcal{Z} 01'32	
minimum elong	1990 Jul 15 05:31	22° \mathcal{E} 29'19	0°13'46	opposition	1996 Jul 04 11:41	12° \mathcal{Z} 45'50	0°-3'-55
behind sun begin	1990 Jul 15 01:19	22° \mathcal{E} 26'59		min. Earth dist.	1996 Jul 05 17:33	12° \mathcal{Z} 36'15	4.18609 AU
behind sun end	1990 Jul 15 09:42	22° \mathcal{E} 31'40		direct	1996 Sep 03 14:37	7° \mathcal{Z} 49'12	
max. Earth dist.	1990 Jul 16 19:36	22° \mathcal{E} 50'41	6.23828 AU	evening set	1997 Jan 06 19:16	26° \mathcal{Z} 31'03	
morning rise	1990 Jul 28 21:36	25° \mathcal{E} 32'50		max. Earth dist.	1997 Jan 18 05:49	29° \mathcal{Z} 12'06	6.11487 AU
	1990 Aug 18 07:30	0° Ω					
retrograde	1990 Nov 30 05:03	13° Ω 35'46		conjunction	1997 Jan 19 13:07	29° \mathcal{Z} 30'31	0°-21'-28
min. Earth dist.	1991 Jan 28 08:00	8° Ω 40'38	4.30609 AU	minimum elong	1997 Jan 19 13:06	29° \mathcal{Z} 30'31	0°21'28
opposition	1991 Jan 29 00:26	8° Ω 35'09	0°45'27		1997 Jan 21 15:13	0° \approx	
direct	1991 Mar 30 13:15	3° Ω 32'57		morning rise	1997 Feb 01 08:03	2° \approx 30'46	
	1991 Jul 04 04:26	15° Ω			1997 Mar 31 22:31	15° \approx	
evening set	1991 Aug 04 11:32	21° Ω 34'31		retrograde	1997 Jun 10 00:24	21° \approx 56'27	
				opposition	1997 Aug 09 13:39	16° \approx 59'59	0°-58'-16
conjunction	1991 Aug 17 22:24	24° Ω 30'48	0°45'51	min. Earth dist.	1997 Aug 10 01:05	16° \approx 56'15	4.04909 AU
minimum elong	1991 Aug 17 22:22	24° Ω 30'46	0°45'51		1997 Aug 25 08:48	15° $\mathcal{R}\approx$	
max. Earth dist.	1991 Aug 18 08:24	24° Ω 36'15	6.36575 AU	direct	1997 Oct 08 04:37	12° \approx 05'32	
morning rise	1991 Aug 31 07:15	27° Ω 25'50			1997 Nov 20 02:33	15° \approx	
	1991 Sep 12 06:00	0° \mathcal{P}			1998 Feb 04 10:52	0° \mathcal{H}	
retrograde	1991 Dec 30 21:33	14° \mathcal{P} 37'45		evening set	1998 Feb 10 09:56	1° \mathcal{H} 25'10	
opposition	1992 Feb 29 00:37	9° \mathcal{P} 40'51	1°22'25				
min. Earth dist.	1992 Feb 29 02:46	9° \mathcal{P} 40'09	4.41180 AU	conjunction	1998 Feb 23 08:51	4° \mathcal{H} 31'56	0°-52'-56
direct	1992 Apr 30 19:38	4° \mathcal{P} 37'55		minimum elong	1998 Feb 23 08:49	4° \mathcal{H} 31'55	0°52'57
evening set	1992 Sep 04 15:06	22° \mathcal{P} 16'07		max. Earth dist.	1998 Feb 23 07:30	4° \mathcal{H} 31'07	5.99686 AU
				morning rise	1998 Mar 08 10:00	7° \mathcal{H} 40'08	
conjunction	1992 Sep 17 18:31	25° \mathcal{P} 06'16	1°03'45	retrograde	1998 Jul 18 01:49	28° \mathcal{H} 03'35	
minimum elong	1992 Sep 17 18:30	25° \mathcal{P} 06'15	1°03'44	opposition	1998 Sep 16 03:02	23° \mathcal{H} 03'19	-1°-33'-38
max. Earth dist.	1992 Sep 17 02:28	24° \mathcal{P} 57'35	6.44150 AU	min. Earth dist.	1998 Sep 15 16:58	23° \mathcal{H} 06'40	3.96289 AU
morning rise	1992 Sep 30 18:55	27° \mathcal{P} 54'58		direct	1998 Nov 13 13:02	18° \mathcal{H} 09'40	
	1992 Oct 10 13:26	0° $\underline{\Delta}$			1999 Feb 13 01:23	0° Υ	
retrograde	1993 Jan 28 23:09	14° $\underline{\Delta}$ 41'45		evening set	1999 Mar 18 23:45	7° Υ 52'08	
opposition	1993 Mar 30 12:01	9° $\underline{\Delta}$ 47'54	1°35'51				
min. Earth dist.	1993 Mar 31 06:41	9° $\underline{\Delta}$ 41'53	4.45423 AU	conjunction	1999 Apr 01 06:10	11° Υ 04'28	-1°-5'-8
direct	1993 Jun 01 01:09	4° $\underline{\Delta}$ 45'27		minimum elong	1999 Apr 01 06:10	11° Υ 04'28	1°05'09





























































































































max. Earth dist.	1999 Apr 02 13:03	11°♈23'09	5.95024 AU	min. Earth dist.	2005 Apr 04 13:38	13°♎51'07	4.45665 AU
morning rise	1999 Apr 14 15:43	14°♈18'29		direct	2005 Jun 05 07:20	8°♎55'50	
	1999 Jun 28 09:29	0°♋		evening set	2005 Oct 09 16:43	26°♎26'00	
retrograde	1999 Aug 25 02:37	4°♋59'12		max. Earth dist.	2005 Oct 20 20:25	28°♎51'10	6.44285 AU
opposition	1999 Oct 23 19:04	29°♈55'30	-1°-32'-20				
min. Earth dist.	1999 Oct 22 14:07	0°♋05'19	3.96287 AU	conjunction	2005 Oct 22 12:54	29°♎13'12	1°02'40
	1999 Oct 23 05:48	30°♋		minimum elong	2005 Oct 22 12:55	29°♎13'12	1°02'39
direct	1999 Dec 20 14:48	25°♈00'35			2005 Oct 26 02:52	0°♌	
	2000 Feb 14 21:40	0°♋		morning rise	2005 Nov 04 06:20	1°♌59'12	
evening set	2000 Apr 24 13:59	14°♋38'47			2006 Jan 12 06:04	15°♌	
	2000 Apr 26 01:49	15°♋		retrograde	2006 Mar 04 18:02	18°♌51'42	
					2006 Apr 26 15:57	15°♋♌	
conjunction	2000 May 08 04:08	17°♋52'37	0°-51'-43	opposition	2006 May 04 14:36	13°♌59'40	1°20'12
minimum elong	2000 May 08 04:11	17°♋52'38	0°51'44	min. Earth dist.	2006 May 05 23:44	13°♌49'06	4.41270 AU
max. Earth dist.	2000 May 10 07:40	18°♋23'17	5.99610 AU	direct	2006 Jul 06 07:19	8°♌58'43	
morning rise	2000 May 21 21:05	21°♋07'40			2006 Sep 11 08:21	15°♌	
	2000 Jun 30 07:35	0°♐		evening set	2006 Nov 09 06:39	26°♌41'27	
retrograde	2000 Sep 29 12:52	11°♐14'05		max. Earth dist.	2006 Nov 19 20:53	29°♌02'14	6.36473 AU
min. Earth dist.	2000 Nov 26 15:07	6°♐21'02	4.04935 AU				
opposition	2000 Nov 28 02:12	6°♐09'03	0°-54'-55	conjunction	2006 Nov 21 23:15	29°♌30'15	0°43'25
direct	2001 Jan 25 08:38	1°♐11'16		minimum elong	2006 Nov 21 23:17	29°♌30'16	0°43'25
evening set	2001 May 31 18:20	20°♐20'38			2006 Nov 24 04:43	0°♑	
				morning rise	2006 Dec 04 14:10	2°♑18'26	
conjunction	2001 Jun 14 12:38	23°♐30'50	0°-19'-5	retrograde	2007 Apr 06 01:22	19°♑46'44	
minimum elong	2001 Jun 14 12:39	23°♐30'51	0°19'05	opposition	2007 Jun 05 23:13	14°♑54'38	0°41'52
max. Earth dist.	2001 Jun 16 18:10	24°♐01'42	6.11521 AU	min. Earth dist.	2007 Jun 07 12:16	14°♑42'50	4.30438 AU
morning rise	2001 Jun 28 07:42	26°♐41'12		direct	2007 Aug 07 02:05	9°♑55'48	
	2001 Jul 13 00:03	0°♒		evening set	2007 Dec 10 13:49	28°♑06'49	
retrograde	2001 Nov 02 15:35	15°♒41'30			2007 Dec 18 20:11	0°♓	
asc. node	2001 Dec 30 23:32	10°♒48'17		max. Earth dist.	2007 Dec 21 07:01	0°♓33'42	6.23484 AU
min. Earth dist.	2001 Dec 31 01:04	10°♒47'46	4.18746 AU				
opposition	2002 Jan 01 05:53	10°♒38'01	0°00'11	conjunction	2007 Dec 23 05:56	1°♓00'35	0°10'59
direct	2002 Mar 01 15:15	5°♒37'24		minimum elong	2007 Dec 23 05:56	1°♓00'35	0°10'58
evening set	2002 Jul 06 09:10	24°♒07'50		behind sun begin	2007 Dec 22 23:52	0°♓57'08	
				behind sun end	2007 Dec 23 12:01	1°♓04'03	
conjunction	2002 Jul 20 01:19	27°♒10'44	0°18'48	morning rise	2008 Jan 04 21:40	3°♓54'25	
minimum elong	2002 Jul 20 01:17	27°♒10'44	0°18'48	desc. node	2008 Apr 17 16:02	21°♓37'34	
max. Earth dist.	2002 Jul 21 11:20	27°♒29'44	6.26068 AU	retrograde	2008 May 09 12:11	22°♓22'06	
	2002 Aug 01 17:20	0°♈		opposition	2008 Jul 09 07:39	17°♓28'18	0°-11'-39
morning rise	2002 Aug 02 16:39	0°♈12'54		min. Earth dist.	2008 Jul 10 10:59	17°♓19'30	4.16102 AU
	2002 Oct 20 08:09	15°♈		direct	2008 Sep 08 04:16	12°♓32'01	
retrograde	2002 Dec 04 12:22	18°♈06'16			2009 Jan 05 15:41	0°♉	
	2003 Jan 18 18:29	15°♋♈		evening set	2009 Jan 11 11:11	1°♉21'27	
opposition	2003 Feb 02 09:12	13°♈06'06	0°51'42	max. Earth dist.	2009 Jan 23 02:42	4°♉06'15	6.09056 AU
min. Earth dist.	2003 Feb 01 19:11	13°♈10'46	4.32714 AU				
direct	2003 Apr 04 03:04	8°♈03'39		conjunction	2009 Jan 24 05:44	4°♉22'14	0°-26'-27
	2003 Jun 14 19:56	15°♈		minimum elong	2009 Jan 24 05:43	4°♉22'13	0°26'27
evening set	2003 Aug 09 00:11	25°♈59'49		morning rise	2009 Feb 06 01:21	7°♉23'52	
					2009 Mar 11 15:11	15°♉	
conjunction	2003 Aug 22 10:08	28°♈54'56	0°49'13	retrograde	2009 Jun 15 07:50	27°♉01'03	
minimum elong	2003 Aug 22 10:06	28°♈54'55	0°49'13	opposition	2009 Aug 14 17:53	22°♉04'09	-1°-4'-48
max. Earth dist.	2003 Aug 22 17:36	28°♈59'00	6.38381 AU	min. Earth dist.	2009 Aug 15 03:13	22°♉01'06	4.02783 AU
	2003 Aug 27 09:26	0°♊		direct	2009 Oct 13 04:34	17°♉09'59	
morning rise	2003 Sep 04 17:34	1°♊48'43			2010 Jan 18 02:10	0°♋	
retrograde	2004 Jan 03 23:57	18°♊54'13		evening set	2010 Feb 15 10:49	6°♋36'06	
opposition	2004 Mar 04 05:05	13°♊57'48	1°25'38				
min. Earth dist.	2004 Mar 04 09:17	13°♊56'26	4.42565 AU	conjunction	2010 Feb 28 10:44	9°♋44'05	0°-56'-1
direct	2004 May 05 03:07	8°♊54'53		minimum elong	2010 Feb 28 10:42	9°♋44'04	0°56'01
evening set	2004 Sep 08 21:37	26°♊29'46		max. Earth dist.	2010 Feb 28 13:56	9°♋46'00	5.98065 AU
				morning rise	2010 Mar 13 13:11	12°♋53'34	
conjunction	2004 Sep 21 23:48	29°♊19'08	1°04'47		2010 Jun 06 06:28	0°♌	
minimum elong	2004 Sep 21 23:47	29°♊19'08	1°04'48	retrograde	2010 Jul 23 12:03	3°♌24'07	
max. Earth dist.	2004 Sep 21 02:34	29°♊07'39	6.44986 AU		2010 Sep 09 04:49	30°♋♌	
	2004 Sep 25 03:23	0°♎		opposition	2010 Sep 21 11:36	28°♋23'19	-1°-35'-49
morning rise	2004 Oct 04 23:18	2°♎07'07		min. Earth dist.	2010 Sep 20 21:19	28°♋28'05	3.95393 AU
retrograde	2005 Feb 02 02:26	18°♎51'45		direct	2010 Nov 18 16:53	23°♋29'41	
opposition	2005 Apr 03 15:30	13°♎58'15	1°35'36		2011 Jan 22 17:11	0°♏	

evening set	2011 Mar 24 07:07	13° Υ 14'25		minimum elong	2016 Sep 26 06:59	3° Ω 37'06	1°05'33
				morning rise	2016 Oct 09 05:20	6° Ω 24'32	
conjunction	2011 Apr 06 14:40	16° Υ 27'21	-1°-4'-42	retrograde	2017 Feb 06 06:52	23° Ω 08'25	
minimum elong	2011 Apr 06 14:41	16° Υ 27'21	1°04'43	opposition	2017 Apr 07 21:39	18° Ω 15'12	1°34'55
max. Earth dist.	2011 Apr 08 01:39	16° Υ 48'30	5.94919 AU	min. Earth dist.	2017 Apr 08 21:23	18° Ω 07'35	4.45490 AU
morning rise	2011 Apr 20 01:29	19° Υ 41'57		direct	2017 Jun 09 14:03	13° Ω 12'58	
	2011 Jun 04 13:56	0° \mathcal{B}			2017 Oct 10 13:20	0° \mathcal{M}	
retrograde	2011 Aug 30 09:17	10° \mathcal{B} 21'20		evening set	2017 Oct 13 22:46	0° \mathcal{M} 43'54	
min. Earth dist.	2011 Oct 27 18:41	5° \mathcal{B} 27'43	3.96975 AU	max. Earth dist.	2017 Oct 24 22:20	3° \mathcal{M} 07'11	6.43536 AU
opposition	2011 Oct 29 01:42	5° \mathcal{B} 17'10	-1°-28'-50				
direct	2011 Dec 25 22:08	0° \mathcal{B} 21'52		conjunction	2017 Oct 26 18:09	3° \mathcal{M} 31'06	1°00'56
	2012 Apr 08 13:26	15° \mathcal{B}		minimum elong	2017 Oct 26 18:11	3° \mathcal{M} 31'07	1°00'55
evening set	2012 Apr 29 22:12	19° \mathcal{B} 57'04		morning rise	2017 Nov 08 11:12	6° \mathcal{M} 17'14	
					2017 Dec 21 01:33	15° \mathcal{M}	
conjunction	2012 May 13 13:23	23° \mathcal{B} 10'41	0°-47'-55	retrograde	2018 Mar 09 04:45	23° \mathcal{M} 13'21	
minimum elong	2012 May 13 13:25	23° \mathcal{B} 10'42	0°47'56	opposition	2018 May 09 00:39	18° \mathcal{M} 21'24	1°16'04
max. Earth dist.	2012 May 15 20:29	23° \mathcal{B} 43'20	6.01014 AU	min. Earth dist.	2018 May 10 11:53	18° \mathcal{M} 10'10	4.39983 AU
morning rise	2012 May 27 06:49	26° \mathcal{B} 25'18			2018 Jun 06 23:14	15° $\mathcal{R}\mathcal{M}$	
	2012 Jun 11 17:22	0° \mathcal{I}		direct	2018 Jul 10 17:02	13° \mathcal{M} 20'40	
retrograde	2012 Oct 04 13:18	16° \mathcal{I} 22'53			2018 Aug 13 10:38	15° \mathcal{M}	
min. Earth dist.	2012 Dec 01 14:50	11° \mathcal{I} 29'47	4.06853 AU		2018 Nov 08 12:39	0° \mathcal{J}	
opposition	2012 Dec 03 01:45	11° \mathcal{I} 17'52	0°-47'-35	evening set	2018 Nov 13 14:03	1° \mathcal{J} 06'53	
direct	2013 Jan 30 11:37	6° \mathcal{I} 19'38		max. Earth dist.	2018 Nov 24 03:39	3° \mathcal{J} 27'54	6.34749 AU
evening set	2013 Jun 05 22:01	25° \mathcal{I} 22'51					
				conjunction	2018 Nov 26 06:33	3° \mathcal{J} 56'19	0°39'30
conjunction	2013 Jun 19 16:11	28° \mathcal{I} 32'01	0°-13'-41	minimum elong	2018 Nov 26 06:35	3° \mathcal{J} 56'20	0°39'30
minimum elong	2013 Jun 19 16:12	28° \mathcal{I} 32'02	0°13'42	morning rise	2018 Dec 08 21:21	6° \mathcal{J} 45'09	
behind sun begin	2013 Jun 19 11:55	28° \mathcal{I} 29'35		retrograde	2019 Apr 10 17:01	24° \mathcal{J} 21'01	
behind sun end	2013 Jun 19 20:29	28° \mathcal{I} 34'29		opposition	2019 Jun 10 15:28	19° \mathcal{J} 28'46	0°34'59
max. Earth dist.	2013 Jun 21 19:20	29° \mathcal{I} 01'22	6.13746 AU	min. Earth dist.	2019 Jun 12 03:04	19° \mathcal{J} 17'25	4.28391 AU
	2013 Jun 26 01:40	0° \mathcal{E}		direct	2019 Aug 11 13:37	14° \mathcal{J} 30'18	
morning rise	2013 Jul 03 11:11	1° \mathcal{E} 41'17			2019 Dec 02 18:20	0° \mathcal{Z}	
retrograde	2013 Nov 07 05:03	20° \mathcal{E} 30'39		evening set	2019 Dec 15 02:09	2° \mathcal{Z} 46'57	
asc. node	2013 Nov 09 05:45	20° \mathcal{E} 30'14		max. Earth dist.	2019 Dec 25 21:56	5° \mathcal{Z} 16'03	6.21293 AU
opposition	2014 Jan 05 21:11	15° \mathcal{E} 27'29	0°08'06				
min. Earth dist.	2014 Jan 04 17:38	15° \mathcal{E} 36'49	4.21043 AU	conjunction	2019 Dec 27 18:25	5° \mathcal{Z} 41'41	0°05'46
direct	2014 Mar 06 10:42	10° \mathcal{E} 26'31		minimum elong	2019 Dec 27 18:26	5° \mathcal{Z} 41'41	0°05'46
evening set	2014 Jul 11 05:13	28° \mathcal{E} 50'41		behind sun begin	2019 Dec 27 10:47	5° \mathcal{Z} 37'18	
	2014 Jul 16 10:31	0° \mathcal{Q}		behind sun end	2019 Dec 28 02:04	5° \mathcal{Z} 46'04	
				morning rise	2020 Jan 09 10:31	8° \mathcal{Z} 36'36	
conjunction	2014 Jul 24 20:44	1° \mathcal{Q} 52'20	0°23'46	desc. node	2020 Feb 26 02:46	18° \mathcal{Z} 49'05	
minimum elong	2014 Jul 24 20:42	1° \mathcal{Q} 52'19	0°23'46	retrograde	2020 May 14 14:32	27° \mathcal{Z} 14'25	
max. Earth dist.	2014 Jul 26 03:40	2° \mathcal{Q} 09'32	6.28258 AU	opposition	2020 Jul 14 07:58	22° \mathcal{Z} 20'18	0°-19'-39
morning rise	2014 Aug 07 10:57	4° \mathcal{Q} 53'07		min. Earth dist.	2020 Jul 15 09:57	22° \mathcal{Z} 11'55	4.13933 AU
	2014 Sep 25 18:26	15° \mathcal{Q}		direct	2020 Sep 13 00:41	17° \mathcal{Z} 24'24	
retrograde	2014 Dec 08 20:41	22° \mathcal{Q} 37'37			2020 Dec 19 13:07	0° \approx	
opposition	2015 Feb 06 18:20	17° \mathcal{Q} 38'00	0°57'43	evening set	2021 Jan 16 06:30	6° \approx 19'52	
min. Earth dist.	2015 Feb 06 07:06	17° \mathcal{Q} 41'44	4.34620 AU	max. Earth dist.	2021 Jan 28 02:16	9° \approx 07'52	6.07126 AU
	2015 Feb 27 16:10	15° $\mathcal{R}\mathcal{Q}$					
direct	2015 Apr 08 16:57	12° \mathcal{Q} 35'26		conjunction	2021 Jan 29 01:40	9° \approx 21'45	0°-31'-26
	2015 May 19 04:29	15° \mathcal{Q}		minimum elong	2021 Jan 29 01:38	9° \approx 21'44	0°31'27
	2015 Aug 11 11:11	0° \mathcal{P}		morning rise	2021 Feb 10 22:08	12° \approx 24'36	
evening set	2015 Aug 13 13:17	0° \mathcal{P} 27'01			2021 Feb 21 23:41	15° \approx	
					2021 May 13 22:36	0° \mathcal{H}	
conjunction	2015 Aug 26 22:02	3° \mathcal{P} 21'04	0°52'24	retrograde	2021 Jun 20 15:05	2° \mathcal{H} 11'04	
minimum elong	2015 Aug 26 22:00	3° \mathcal{P} 21'03	0°52'23		2021 Jul 28 12:42	30° $\mathcal{R}\approx$	
max. Earth dist.	2015 Aug 27 00:08	3° \mathcal{P} 22'12	6.39850 AU	opposition	2021 Aug 20 00:28	27° \approx 13'41	-1°-11'-1
morning rise	2015 Sep 09 04:25	6° \mathcal{P} 13'48		min. Earth dist.	2021 Aug 20 05:26	27° \approx 12'03	4.01320 AU
retrograde	2016 Jan 08 04:40	23° \mathcal{P} 14'17		direct	2021 Oct 18 05:30	22° \approx 19'46	
opposition	2016 Mar 08 10:57	18° \mathcal{P} 18'17	1°28'30		2021 Dec 29 04:10	0° \mathcal{H}	
min. Earth dist.	2016 Mar 08 18:12	18° \mathcal{P} 15'55	4.43535 AU	evening set	2022 Feb 20 13:21	11° \mathcal{H} 49'40	
direct	2016 May 09 12:14	13° \mathcal{P} 15'19					
	2016 Sep 09 11:18	0° \mathcal{A}		conjunction	2022 Mar 05 14:06	14° \mathcal{H} 58'27	0°-58'-43
evening set	2016 Sep 13 05:38	0° \mathcal{A} 48'16		minimum elong	2022 Mar 05 14:05	14° \mathcal{H} 58'25	0°58'44
max. Earth dist.	2016 Sep 25 07:32	3° \mathcal{A} 24'25	6.45387 AU	max. Earth dist.	2022 Mar 05 22:11	15° \mathcal{H} 03'20	5.97207 AU
				morning rise	2022 Mar 18 17:37	18° \mathcal{H} 08'47	
conjunction	2016 Sep 26 07:00	3° \mathcal{A} 37'06	1°05'33		2022 May 10 23:22	0° \mathcal{Y}	

retrograde	2022 Jul 28 20:37	8° Υ 43'04		direct	2028 May 13 20:00	17° η 32'25	
opposition	2022 Sep 26 19:33	3° Υ 41'39	-1°-37'-14		2028 Aug 24 05:08	0° Ω	
min. Earth dist.	2022 Sep 26 02:14	3° Υ 47'28	3.95256 AU	evening set	2028 Sep 17 12:29	5° Ω 04'55	
	2022 Oct 28 05:10	30° \mathcal{R} \mathcal{K}		max. Earth dist.	2028 Sep 29 08:52	7° Ω 38'17	6.45317 AU
direct	2022 Nov 23 23:02	28° \mathcal{K} 47'54					
	2022 Dec 20 14:32	0° Υ		conjunction	2028 Sep 30 12:51	7° Ω 53'25	1°05'57
evening set	2023 Mar 29 13:21	18° Υ 32'02		minimum elong	2028 Sep 30 12:50	7° Ω 53'25	1°05'57
				morning rise	2028 Oct 13 10:28	10° Ω 40'35	
conjunction	2023 Apr 11 22:07	21° Υ 45'14	-1°-3'-48	retrograde	2029 Feb 10 13:07	27° Ω 25'26	
minimum elong	2023 Apr 11 22:08	21° Υ 45'14	1°03'48	opposition	2029 Apr 12 04:05	22° Ω 32'29	1°33'45
max. Earth dist.	2023 Apr 13 14:33	22° Υ 09'37	5.95513 AU	min. Earth dist.	2029 Apr 13 06:00	22° Ω 24'10	4.44891 AU
morning rise	2023 Apr 25 09:50	24° Υ 59'59		direct	2029 Jun 13 21:06	17° Ω 30'25	
	2023 May 16 17:20	0° \mathcal{B}			2029 Sep 24 06:24	0° \mathcal{M}	
	2023 Aug 16 17:05	15° \mathcal{B}		evening set	2029 Oct 18 04:57	5° \mathcal{M} 03'26	
retrograde	2023 Sep 04 14:11	15° \mathcal{B} 34'55		max. Earth dist.	2029 Oct 29 03:45	7° \mathcal{M} 26'41	6.42459 AU
	2023 Sep 23 06:25	15° \mathcal{R} \mathcal{B}					
min. Earth dist.	2023 Nov 01 21:01	10° \mathcal{B} 41'23	3.98237 AU	conjunction	2029 Oct 30 23:57	7° \mathcal{M} 50'52	0°58'51
opposition	2023 Nov 03 05:02	10° \mathcal{B} 30'30	-1°-24'-43	minimum elong	2029 Oct 30 23:58	7° \mathcal{M} 50'52	0°58'51
direct	2023 Dec 31 02:40	5° \mathcal{B} 34'52		morning rise	2029 Nov 12 16:22	10° \mathcal{M} 37'13	
	2024 Mar 20 16:44	15° \mathcal{B}			2029 Dec 03 04:56	15° \mathcal{M}	
evening set	2024 May 05 03:03	25° \mathcal{B} 05'20		retrograde	2030 Mar 13 14:33	27° \mathcal{M} 38'00	
				opposition	2030 May 13 11:33	22° \mathcal{M} 46'08	1°11'29
conjunction	2024 May 18 18:45	28° \mathcal{B} 18'23	0°-43'-52	min. Earth dist.	2030 May 14 22:39	22° \mathcal{M} 34'57	4.38506 AU
minimum elong	2024 May 18 18:48	28° \mathcal{B} 18'25	0°43'53	direct	2030 Jul 15 01:26	17° \mathcal{M} 45'45	
max. Earth dist.	2024 May 21 01:40	28° \mathcal{B} 50'46	6.02787 AU		2030 Oct 22 23:14	0° \mathcal{J}	
	2024 May 25 23:15	0° \mathcal{I}		evening set	2030 Nov 17 22:32	5° \mathcal{J} 35'57	
morning rise	2024 Jun 01 12:52	1° \mathcal{I} 32'25		max. Earth dist.	2030 Nov 28 11:39	7° \mathcal{J} 57'21	6.32987 AU
retrograde	2024 Oct 09 07:04	21° \mathcal{I} 20'16					
min. Earth dist.	2024 Dec 06 10:00	16° \mathcal{I} 27'17	4.08936 AU	conjunction	2030 Nov 30 14:43	8° \mathcal{J} 25'59	0°35'19
opposition	2024 Dec 07 20:58	16° \mathcal{I} 15'22	0°-40'-10	minimum elong	2030 Nov 30 14:44	8° \mathcal{J} 26'00	0°35'19
direct	2025 Feb 04 09:40	11° \mathcal{I} 16'42		morning rise	2030 Dec 13 05:38	11° \mathcal{J} 15'33	
	2025 Jun 09 21:02	0° \mathcal{E}		retrograde	2031 Apr 15 12:04	28° \mathcal{J} 59'10	
evening set	2025 Jun 10 21:10	0° \mathcal{E} 13'41		opposition	2031 Jun 15 09:19	24° \mathcal{J} 06'44	0°27'47
				min. Earth dist.	2031 Jun 16 20:34	23° \mathcal{J} 55'28	4.26444 AU
conjunction	2025 Jun 24 15:17	3° \mathcal{E} 21'50	0°-8'-24	direct	2031 Aug 16 04:58	19° \mathcal{J} 08'36	
minimum elong	2025 Jun 24 15:18	3° \mathcal{E} 21'51	0°08'25		2031 Nov 15 10:29	0° \mathcal{Z}	
behind sun begin	2025 Jun 24 08:00	3° \mathcal{E} 17'42		evening set	2031 Dec 19 15:05	7° \mathcal{Z} 30'13	
behind sun end	2025 Jun 24 22:35	3° \mathcal{E} 25'59		max. Earth dist.	2031 Dec 30 13:54	10° \mathcal{Z} 01'42	6.19333 AU
max. Earth dist.	2025 Jun 26 16:02	3° \mathcal{E} 49'40	6.15961 AU				
morning rise	2025 Jul 08 09:47	6° \mathcal{E} 29'53		conjunction	2032 Jan 01 07:41	10° \mathcal{Z} 25'52	0°00'26
asc. node	2025 Sep 19 20:39	20° \mathcal{E} 57'50		minimum elong	2032 Jan 01 07:40	10° \mathcal{Z} 25'52	0°00'26
retrograde	2025 Nov 11 16:41	25° \mathcal{E} 09'09		behind sun begin	2031 Dec 31 23:42	10° \mathcal{Z} 21'17	
min. Earth dist.	2026 Jan 09 08:06	20° \mathcal{E} 14'46	4.23168 AU	behind sun end	2032 Jan 01 15:39	10° \mathcal{Z} 30'27	
opposition	2026 Jan 10 08:42	20° \mathcal{E} 06'28	0°15'41	desc. node	2032 Jan 05 16:23	11° \mathcal{Z} 26'27	
direct	2026 Mar 11 03:30	15° \mathcal{E} 05'14		morning rise	2032 Jan 14 00:08	13° \mathcal{Z} 21'46	
	2026 Jun 30 05:52	0° \mathcal{Q}			2032 Apr 12 00:59	0° \approx	
evening set	2026 Jul 15 21:34	3° \mathcal{Q} 24'06		retrograde	2032 May 19 14:47	2° \approx 08'42	
					2032 Jun 26 12:56	30° \mathcal{R} \mathcal{Z}	
conjunction	2026 Jul 29 12:18	6° \mathcal{Q} 24'39	0°28'25	opposition	2032 Jul 19 08:33	27° \mathcal{Z} 14'10	0°-27'-32
minimum elong	2026 Jul 29 12:16	6° \mathcal{Q} 24'38	0°28'25	min. Earth dist.	2032 Jul 20 07:13	27° \mathcal{Z} 06'52	4.12118 AU
max. Earth dist.	2026 Jul 30 15:07	6° \mathcal{Q} 39'30	6.30122 AU	direct	2032 Sep 17 19:52	22° \mathcal{Z} 18'37	
morning rise	2026 Aug 12 01:36	9° \mathcal{Q} 24'15			2032 Nov 30 03:32	0° \approx	
	2026 Sep 07 06:08	15° \mathcal{Q}		evening set	2033 Jan 21 01:53	11° \approx 18'43	
retrograde	2026 Dec 13 00:56	27° \mathcal{Q} 01'29					
opposition	2027 Feb 11 00:29	22° \mathcal{Q} 02'24	1°03'15	conjunction	2033 Feb 02 21:30	14° \approx 21'28	0°-36'-10
min. Earth dist.	2027 Feb 10 15:32	22° \mathcal{Q} 05'22	4.36112 AU	minimum elong	2033 Feb 02 21:28	14° \approx 21'27	0°36'11
direct	2027 Apr 13 02:11	16° \mathcal{Q} 59'44		max. Earth dist.	2033 Feb 02 02:00	14° \approx 09'52	6.05600 AU
	2027 Jul 26 04:49	0° $\mathcal{\eta}$			2033 Feb 05 14:10	15° \approx	
evening set	2027 Aug 17 23:43	4° $\mathcal{\eta}$ 48'21		morning rise	2033 Feb 15 18:47	17° \approx 25'19	
					2033 Apr 14 22:45	0° \mathcal{K}	
conjunction	2027 Aug 31 07:29	7° $\mathcal{\eta}$ 41'36	0°55'12	retrograde	2033 Jun 25 21:52	7° \mathcal{K} 19'22	
minimum elong	2027 Aug 31 07:27	7° $\mathcal{\eta}$ 41'35	0°55'12	opposition	2033 Aug 25 05:40	2° \mathcal{K} 21'22	-1°-16'-38
max. Earth dist.	2027 Aug 31 05:51	7° $\mathcal{\eta}$ 40'42	6.40865 AU	min. Earth dist.	2033 Aug 25 07:41	2° \mathcal{K} 20'42	4.00224 AU
morning rise	2027 Sep 13 12:41	10° $\mathcal{\eta}$ 33'28			2033 Sep 12 22:28	30° \mathcal{R} \approx	
retrograde	2028 Jan 12 08:53	27° $\mathcal{\eta}$ 30'44		direct	2033 Oct 23 07:19	27° \approx 27'31	
opposition	2028 Mar 12 15:37	22° $\mathcal{\eta}$ 35'16	1°30'53		2033 Dec 01 22:34	0° \mathcal{K}	
min. Earth dist.	2028 Mar 13 01:45	22° $\mathcal{\eta}$ 31'58	4.44032 AU	evening set	2034 Feb 25 14:26	16° \mathcal{K} 59'58	

conjunction	2034 Mar 10 16:17	20° κ 09'27	-1°00'-56	max. Earth dist.	2039 Sep 04 12:50	12° η 01'52	6.41659 AU
minimum elong	2034 Mar 10 16:16	20° κ 09'26	1°00'58	morning rise	2039 Sep 17 22:09	14° η 55'49	
max. Earth dist.	2034 Mar 11 06:01	20° κ 17'46	5.96639 AU		2039 Dec 12 22:05	0° ♊	
morning rise	2034 Mar 23 20:46	23° κ 20'30		retrograde	2040 Jan 16 13:17	1° ♊ 50'27	
	2034 Apr 21 09:39	0° γ			2040 Feb 20 05:35	30° ♊	
retrograde	2034 Aug 03 03:41	13° γ 57'03		opposition	2040 Mar 16 21:58	26° ♊ 55'24	1°32'49
min. Earth dist.	2034 Oct 01 05:30	9° γ 01'40	3.95305 AU	min. Earth dist.	2040 Mar 17 09:42	26° ♊ 51'36	4.44399 AU
opposition	2034 Oct 02 00:58	8° γ 55'09	-1°-37'-51	direct	2040 May 18 03:57	21° ♊ 52'39	
direct	2034 Nov 29 02:24	4° γ 01'15			2040 Aug 05 22:03	0° ♊	
evening set	2035 Apr 03 17:32	23° γ 44'22		evening set	2040 Sep 21 20:51	9° ♊ 24'52	
conjunction	2035 Apr 17 03:12	26° γ 57'43	-1°-2'-25	conjunction	2040 Oct 04 20:23	12° ♊ 13'03	1°06'01
minimum elong	2035 Apr 17 03:14	26° γ 57'44	1°02'25	minimum elong	2040 Oct 04 20:23	12° ♊ 13'03	1°06'01
max. Earth dist.	2035 Apr 18 21:18	27° γ 23'02	5.96142 AU	max. Earth dist.	2040 Oct 03 14:50	11° ♊ 57'03	6.45253 AU
	2035 Apr 29 18:57	0° ♋		morning rise	2040 Oct 17 17:03	14° ♊ 59'54	
morning rise	2035 Apr 30 16:09	0° ♋ 12'39			2041 Jan 11 19:33	0° ♋	
	2035 Jul 09 10:49	15° ♋		retrograde	2041 Feb 14 20:21	1° ♋ 45'34	
retrograde	2035 Sep 09 14:14	20° ♋ 43'05			2041 Mar 21 00:01	30° ♋	
min. Earth dist.	2035 Nov 06 20:01	15° ♋ 49'53	3.99381 AU	opposition	2041 Apr 16 12:20	26° ♋ 52'56	1°32'05
opposition	2035 Nov 08 05:42	15° ♋ 38'25	-1°-20'-3	min. Earth dist.	2041 Apr 17 15:39	26° ♋ 44'11	4.44426 AU
	2035 Nov 12 22:57	15° ♋		direct	2041 Jun 18 06:14	21° ♋ 51'11	
direct	2036 Jan 05 03:58	10° ♋ 42'20			2041 Sep 06 00:12	0° ♋	
	2036 Feb 26 06:47	15° ♋		evening set	2041 Oct 22 12:13	9° ♋ 25'27	
	2036 May 09 14:52	0° ♌		max. Earth dist.	2041 Nov 02 08:10	11° ♋ 47'32	6.41639 AU
evening set	2036 May 10 06:06	0° ♌ 08'54		conjunction	2041 Nov 04 06:33	12° ♋ 12'58	0°56'27
conjunction	2036 May 23 22:33	3° ♌ 21'33	0°-39'-34	minimum elong	2041 Nov 04 06:34	12° ♋ 12'59	0°56'27
minimum elong	2036 May 23 22:35	3° ♌ 21'34	0°39'34	morning rise	2041 Nov 16 22:42	14° ♋ 59'32	
max. Earth dist.	2036 May 26 05:37	3° ♌ 53'54	6.04347 AU		2041 Nov 16 23:33	15° ♋	
morning rise	2036 Jun 06 16:58	6° ♌ 34'59			2042 Feb 08 23:52	0° ♌	
retrograde	2036 Oct 14 01:37	26° ♌ 14'08		retrograde	2042 Mar 18 02:46	2° ♌ 04'13	
min. Earth dist.	2036 Dec 11 05:38	21° ♌ 20'39	4.10717 AU		2042 Apr 24 12:40	30° ♌	
opposition	2036 Dec 12 14:42	21° ♌ 09'23	0°-32'-36	opposition	2042 May 17 23:54	27° ♌ 12'21	1°06'30
direct	2037 Feb 09 07:41	16° ♌ 10'17		min. Earth dist.	2042 May 19 11:16	27° ♌ 01'05	4.37386 AU
	2037 May 24 02:12	0° ♍		direct	2042 Jul 19 12:48	22° ♌ 12'17	
evening set	2037 Jun 15 19:40	5° ♍ 02'18			2042 Oct 04 09:59	0° ♌	
conjunction	2037 Jun 29 13:43	8° ♍ 09'35	0°-3'-5	evening set	2042 Nov 22 06:56	10° ♌ 04'59	
minimum elong	2037 Jun 29 13:43	8° ♍ 09'35	0°03'06	max. Earth dist.	2042 Dec 02 22:10	12° ♌ 27'59	6.31674 AU
behind sun begin	2037 Jun 29 05:23	8° ♍ 04'52		conjunction	2042 Dec 04 23:05	12° ♌ 55'30	0°30'59
behind sun end	2037 Jun 29 22:03	8° ♍ 14'18		minimum elong	2042 Dec 04 23:06	12° ♌ 55'30	0°30'59
max. Earth dist.	2037 Jul 01 12:35	8° ♍ 36'13	6.17818 AU	morning rise	2042 Dec 17 13:48	15° ♌ 45'35	
morning rise	2037 Jul 13 07:51	11° ♍ 16'38			2043 Mar 01 17:06	0° ♍	
asc. node	2037 Jul 31 08:04	15° ♍ 16'06		retrograde	2043 Apr 20 04:02	3° ♍ 35'24	
retrograde	2037 Nov 16 02:16	29° ♍ 47'02			2043 Jun 09 21:42	30° ♍	
opposition	2038 Jan 14 19:57	24° ♍ 44'48	0°23'07	opposition	2043 Jun 20 02:36	28° ♍ 42'47	0°20'32
min. Earth dist.	2038 Jan 13 20:31	24° ♍ 52'41	4.24936 AU	min. Earth dist.	2043 Jun 21 12:10	28° ♍ 32'04	4.25019 AU
direct	2038 Mar 15 17:51	19° ♍ 43'17		direct	2043 Aug 20 18:34	23° ♍ 45'06	
	2038 Jun 12 15:25	0° ♎			2043 Oct 26 11:30	0° ♍	
evening set	2038 Jul 20 14:13	7° ♎ 58'02		desc. node	2043 Nov 16 20:01	4° ♍ 00'16	
conjunction	2038 Aug 03 04:07	10° ♎ 57'35	0°32'56	evening set	2043 Dec 24 03:03	12° ♍ 09'56	
minimum elong	2038 Aug 03 04:05	10° ♎ 57'34	0°32'55	max. Earth dist.	2044 Jan 04 03:41	14° ♍ 43'01	6.17914 AU
max. Earth dist.	2038 Aug 04 02:19	11° ♎ 09'51	6.31668 AU	conjunction	2044 Jan 05 19:37	15° ♍ 06'12	0°-4'-48
morning rise	2038 Aug 16 16:29	13° ♎ 56'08		minimum elong	2044 Jan 05 19:38	15° ♍ 06'12	0°04'49
	2038 Aug 21 13:35	15° ♎		behind sun begin	2044 Jan 05 11:50	15° ♍ 01'42	
	2038 Nov 16 21:20	0° ♏		behind sun end	2044 Jan 06 03:26	15° ♍ 10'42	
retrograde	2038 Dec 17 08:39	1° ♏ 27'11		morning rise	2044 Jan 18 12:35	18° ♍ 02'53	
	2039 Jan 16 14:54	30° ♏			2044 Mar 15 04:27	0° ♏	
opposition	2039 Feb 15 08:02	26° ♏ 28'39	1°08'28	retrograde	2044 May 24 14:02	6° ♏ 57'12	
min. Earth dist.	2039 Feb 15 02:27	26° ♏ 30'30	4.37328 AU	opposition	2044 Jul 24 06:54	2° ♏ 02'16	0°-35'00
direct	2039 Apr 17 14:51	21° ♏ 25'54		min. Earth dist.	2044 Jul 25 03:24	1° ♏ 55'38	4.10799 AU
	2039 Jul 08 00:24	0° ♏			2044 Aug 09 12:41	30° ♏	
evening set	2039 Aug 22 11:14	9° ♏ 12'09		direct	2044 Sep 22 14:52	27° ♏ 06'57	
conjunction	2039 Sep 04 18:03	12° ♏ 04'41	0°57'44		2044 Nov 04 17:32	0° ♏	
minimum elong	2039 Sep 04 18:01	12° ♏ 04'40	0°57'44	evening set	2045 Jan 20 19:28	15° ♏	
					2045 Jan 25 18:22	16° ♏ 10'09	

conjunction	2045 Feb 07 14:43	19° \approx 13'40	0°-40'-28	max. Earth dist.	2050 Aug 08 15:11	15° Ω 39'59	6.32958 AU
minimum elong	2045 Feb 07 14:41	19° \approx 13'39	0°40'29	morning rise	2050 Aug 21 06:10	18° Ω 26'24	
max. Earth dist.	2045 Feb 06 23:50	19° \approx 04'48	6.04506 AU		2050 Oct 18 12:45	0° η	
morning rise	2045 Feb 20 12:38	22° \approx 18'18		retrograde	2050 Dec 21 13:16	5° η 51'59	
	2045 Mar 26 05:08	0° \mathcal{H}		opposition	2051 Feb 19 14:39	0° η 53'54	1°13'10
retrograde	2045 Jul 01 00:36	12° \mathcal{H} 18'20		min. Earth dist.	2051 Feb 19 10:11	0° η 55'23	4.38393 AU
opposition	2045 Aug 30 07:02	7° \mathcal{H} 19'53	-1°-21'-26		2051 Feb 26 11:00	30° $\mathcal{R}\Omega$	
min. Earth dist.	2045 Aug 30 06:43	7° \mathcal{H} 19'59	3.99480 AU	direct	2051 Apr 22 00:08	25° Ω 51'05	
direct	2045 Oct 28 04:35	2° \mathcal{H} 26'10			2051 Jun 15 11:26	0° η	
evening set	2046 Mar 02 11:54	22° \mathcal{H} 00'17		evening set	2051 Aug 26 21:59	13° η 35'10	
conjunction	2046 Mar 15 14:30	25° \mathcal{H} 10'17	-1°-2'-36	conjunction	2051 Sep 09 03:40	16° η 26'57	0°59'53
minimum elong	2046 Mar 15 14:29	25° \mathcal{H} 10'17	1°02'38	minimum elong	2051 Sep 09 03:39	16° η 26'56	0°59'53
max. Earth dist.	2046 Mar 16 06:18	25° \mathcal{H} 19'51	5.96290 AU	max. Earth dist.	2051 Sep 08 18:45	16° η 22'07	6.42412 AU
morning rise	2046 Mar 28 20:11	28° \mathcal{H} 22'00		morning rise	2051 Sep 22 06:45	19° η 17'21	
	2046 Apr 04 16:10	0° \mathcal{Y}			2051 Nov 15 14:43	0° $\underline{\Delta}$	
retrograde	2046 Aug 08 04:13	19° \mathcal{Y} 00'07		retrograde	2052 Jan 20 18:58	6° $\underline{\Delta}$ 09'18	
min. Earth dist.	2046 Oct 06 03:21	14° \mathcal{Y} 05'15	3.95412 AU	opposition	2052 Mar 21 03:58	1° $\underline{\Delta}$ 14'36	1°34'11
opposition	2046 Oct 07 01:28	13° \mathcal{Y} 57'48	-1°-37'-42	min. Earth dist.	2052 Mar 21 18:28	1° $\underline{\Delta}$ 09'54	4.44793 AU
direct	2046 Dec 04 01:07	9° \mathcal{Y} 03'42			2052 Mar 30 20:29	30° $\mathcal{R}\eta$	
evening set	2047 Apr 08 17:45	28° \mathcal{Y} 46'13		direct	2052 May 22 13:36	26° η 11'52	
	2047 Apr 13 21:03	0° \mathcal{B}			2052 Jul 14 00:22	0° $\underline{\Delta}$	
conjunction	2047 Apr 22 04:37	1° \mathcal{B} 59'50	-1°00'-37	evening set	2052 Sep 26 03:51	13° $\underline{\Delta}$ 43'11	
minimum elong	2047 Apr 22 04:39	1° \mathcal{B} 59'51	1°00'39	max. Earth dist.	2052 Oct 07 18:14	16° $\underline{\Delta}$ 13'32	6.45220 AU
max. Earth dist.	2047 Apr 24 01:16	2° \mathcal{B} 26'40	5.96701 AU	conjunction	2052 Oct 09 02:33	16° $\underline{\Delta}$ 31'02	1°05'42
morning rise	2047 May 05 18:23	5° \mathcal{B} 14'56		minimum elong	2052 Oct 09 02:33	16° $\underline{\Delta}$ 31'02	1°05'42
	2047 Jun 17 23:29	15° \mathcal{B}		morning rise	2052 Oct 21 22:25	19° $\underline{\Delta}$ 17'35	
retrograde	2047 Sep 14 12:36	25° \mathcal{B} 41'30			2052 Dec 15 06:52	0° \mathcal{M}	
min. Earth dist.	2047 Nov 11 17:09	20° \mathcal{B} 47'58	4.00322 AU	retrograde	2053 Feb 19 01:55	6° \mathcal{M} 03'50	
opposition	2047 Nov 13 02:11	20° \mathcal{B} 36'42	-1°-15'-2	opposition	2053 Apr 20 19:40	1° \mathcal{M} 11'16	1°29'54
direct	2048 Jan 10 02:18	15° \mathcal{B} 40'16		min. Earth dist.	2053 Apr 21 23:51	1° \mathcal{M} 02'15	4.43959 AU
	2048 Apr 23 01:43	0° \mathcal{I}			2053 Apr 30 04:31	30° $\mathcal{R}\underline{\Delta}$	
evening set	2048 May 15 05:47	5° \mathcal{I} 04'10		direct	2053 Jun 22 13:33	26° $\underline{\Delta}$ 09'37	
conjunction	2048 May 28 22:53	8° \mathcal{I} 16'33	0°-35'-9		2053 Aug 14 07:29	0° \mathcal{M}	
minimum elong	2048 May 28 22:55	8° \mathcal{I} 16'34	0°35'10	evening set	2053 Oct 26 18:06	13° \mathcal{M} 44'56	
max. Earth dist.	2048 May 31 06:14	8° \mathcal{I} 48'57	6.05591 AU	max. Earth dist.	2053 Nov 01 11:28	15° \mathcal{M}	
morning rise	2048 Jun 11 17:46	11° \mathcal{I} 29'37			2053 Nov 06 13:45	16° \mathcal{M} 07'09	6.40749 AU
	2048 Sep 23 12:57	0° \mathcal{E}		conjunction	2053 Nov 08 11:59	16° \mathcal{M} 32'35	0°53'45
retrograde	2048 Oct 18 15:57	1° \mathcal{E} 01'31		minimum elong	2053 Nov 08 12:01	16° \mathcal{M} 32'36	0°53'45
	2048 Nov 12 14:05	30° $\mathcal{R}\mathcal{I}$		morning rise	2053 Nov 21 03:35	19° \mathcal{M} 19'19	
min. Earth dist.	2048 Dec 15 20:35	26° \mathcal{I} 08'15	4.12144 AU		2054 Jan 13 07:58	0° \mathcal{J}	
opposition	2048 Dec 17 05:32	25° \mathcal{I} 57'02	0°-25'-8	retrograde	2054 Mar 22 12:49	6° \mathcal{J} 28'03	
direct	2049 Feb 14 00:24	20° \mathcal{I} 57'37		opposition	2054 May 22 11:02	1° \mathcal{J} 36'10	1°01'08
	2049 May 05 18:12	0° \mathcal{E}		min. Earth dist.	2054 May 23 23:09	1° \mathcal{J} 24'40	4.36091 AU
asc. node	2049 Jun 12 03:55	7° \mathcal{E} 51'55			2054 Jun 04 06:26	30° $\mathcal{R}\mathcal{M}$	
evening set	2049 Jun 20 15:59	9° \mathcal{E} 46'11		direct	2054 Jul 23 22:38	26° \mathcal{M} 36'21	
conjunction	2049 Jul 04 09:45	12° \mathcal{E} 52'43	0°02'11		2054 Sep 10 18:29	0° \mathcal{J}	
minimum elong	2049 Jul 04 09:45	12° \mathcal{E} 52'43	0°02'12	evening set	2054 Nov 26 14:35	14° \mathcal{J} 32'12	
behind sun begin	2049 Jul 04 01:23	12° \mathcal{E} 48'00		max. Earth dist.	2054 Dec 07 04:33	16° \mathcal{J} 55'05	6.30055 AU
behind sun end	2049 Jul 04 18:07	12° \mathcal{E} 57'26		conjunction	2054 Dec 09 06:29	17° \mathcal{J} 23'16	0°26'27
max. Earth dist.	2049 Jul 06 04:54	13° \mathcal{E} 17'10	6.19317 AU	minimum elong	2054 Dec 09 06:31	17° \mathcal{J} 23'17	0°26'28
morning rise	2049 Jul 18 03:33	15° \mathcal{E} 58'55		morning rise	2054 Dec 21 21:29	20° \mathcal{J} 14'05	
	2049 Sep 27 10:28	0° Ω			2055 Feb 06 08:35	0° \mathcal{Z}	
retrograde	2049 Nov 20 12:40	4° Ω 22'03		retrograde	2055 Apr 24 21:44	8° \mathcal{Z} 11'23	
	2050 Jan 14 07:23	30° $\mathcal{R}\mathcal{E}$		opposition	2055 Jun 24 19:50	3° \mathcal{Z} 18'29	0°13'04
min. Earth dist.	2050 Jan 18 09:15	29° \mathcal{E} 27'12	4.26380 AU	min. Earth dist.	2055 Jun 26 04:22	3° \mathcal{Z} 08'04	4.23157 AU
opposition	2050 Jan 19 05:56	29° \mathcal{E} 20'15	0°30'12		2055 Jul 23 04:36	30° $\mathcal{R}\mathcal{J}$	
direct	2050 Mar 20 09:06	24° \mathcal{E} 18'29		direct	2055 Aug 25 08:17	28° \mathcal{J} 21'02	
	2050 May 22 21:48	0° Ω		desc. node	2055 Sep 27 07:33	0° \mathcal{Z} 00'22	
evening set	2050 Jul 25 05:39	12° Ω 30'06			2055 Sep 27 06:02	0° \mathcal{Z}	
	2050 Aug 05 14:33	15° Ω		evening set	2055 Dec 28 15:13	16° \mathcal{Z} 50'45	
conjunction	2050 Aug 07 18:54	15° Ω 28'49	0°37'08	max. Earth dist.	2056 Jan 08 19:44	19° \mathcal{Z} 26'41	6.15974 AU
minimum elong	2050 Aug 07 18:52	15° Ω 28'48	0°37'07	conjunction	2056 Jan 10 08:17	19° \mathcal{Z} 47'59	0°-10'00

minimum elong	2056 Jan 10 08:16	19°  47'58	0°10'01	max. Earth dist.	2061 Jul 11 02:56	18°  04'32	6.21497 AU
behind sun begin	2056 Jan 10 01:46	19°  44'12		morning rise	2061 Jul 23 01:21	20°  45'28	
behind sun end	2056 Jan 10 14:47	19°  51'44			2061 Sep 04 21:40	0° 	
morning rise	2056 Jan 23 01:36	22°  45'40		retrograde	2061 Nov 24 22:05	8°  58'40	
	2056 Feb 24 10:58	0° 		opposition	2062 Jan 23 16:50	3°  57'24	0°37'11
retrograde	2056 May 29 15:43	11°  49'21		min. Earth dist.	2062 Jan 22 21:10	4°  03'59	4.28558 AU
opposition	2056 Jul 29 06:46	6°  54'00	0°-42'-27		2062 Feb 26 23:34	30° 	
min. Earth dist.	2056 Jul 30 01:23	6°  47'59	4.08938 AU	direct	2062 Mar 25 00:10	28°  55'28	
direct	2056 Sep 27 09:47	1°  58'59			2062 Apr 20 08:56	0° 	
	2057 Jan 04 01:24	15° 			2062 Jul 20 12:45	15° 	
evening set	2057 Jan 30 13:42	21°  07'25		evening set	2062 Jul 29 21:02	17°  01'19	
conjunction	2057 Feb 12 10:36	24°  11'55	0°-44'-38	conjunction	2062 Aug 12 09:05	19°  58'46	0°41'07
minimum elong	2057 Feb 12 10:33	24°  11'54	0°44'38	minimum elong	2062 Aug 12 09:03	19°  58'45	0°41'07
max. Earth dist.	2057 Feb 11 22:05	24°  04'26	6.02881 AU	max. Earth dist.	2062 Aug 13 00:23	20°  07'09	6.34957 AU
morning rise	2057 Feb 25 09:36	27°  17'43		morning rise	2062 Aug 25 19:21	22°  55'03	
	2057 Mar 08 20:51	0° 			2062 Sep 28 16:16	0° 	
retrograde	2057 Jul 06 05:35	17°  25'41		retrograde	2062 Dec 25 18:28	10°  13'09	
opposition	2057 Sep 04 11:28	12°  26'39	-1°-25'-52	opposition	2063 Feb 23 20:34	5°  15'35	1°17'23
min. Earth dist.	2057 Sep 04 07:31	12°  27'57	3.98269 AU	min. Earth dist.	2063 Feb 23 19:23	5°  15'58	4.40071 AU
direct	2057 Nov 02 04:26	7°  32'59		direct	2063 Apr 26 11:20	0° 	
evening set	2058 Mar 07 13:50	27°  10'35		evening set	2063 Aug 31 06:16	17°  52'37	
	2058 Mar 19 06:17	0° 					
conjunction	2058 Mar 20 17:42	0°  21'27	-1°-3'-53	conjunction	2063 Sep 13 11:00	20°  43'29	1°01'41
minimum elong	2058 Mar 20 17:42	0°  21'27	1°03'53	minimum elong	2063 Sep 13 10:59	20°  43'29	1°01'40
max. Earth dist.	2058 Mar 21 14:58	0°  34'20	5.95615 AU	max. Earth dist.	2063 Sep 12 23:22	20°  37'12	6.43630 AU
morning rise	2058 Apr 03 00:25	3°  33'58		morning rise	2063 Sep 26 12:47	23°  32'56	
retrograde	2058 Aug 13 12:04	24°  14'31			2063 Oct 27 15:32	0° 	
min. Earth dist.	2058 Oct 11 07:10	19°  19'40	3.95360 AU	retrograde	2064 Jan 24 19:37	10°  21'09	
opposition	2058 Oct 12 06:37	19°  11'45	-1°-36'-47	opposition	2064 Mar 25 07:20	5°  26'50	1°34'59
direct	2058 Dec 09 05:34	14°  17'28		min. Earth dist.	2064 Mar 25 23:25	5°  21'38	4.45484 AU
	2059 Mar 27 23:45	0° 		direct	2064 May 26 18:26	0° 	
evening set	2059 Apr 13 23:19	3°  59'47		evening set	2064 Sep 30 07:50	17°  53'59	
				max. Earth dist.	2064 Oct 11 17:57	20°  22'06	6.45317 AU
conjunction	2059 Apr 27 11:16	7°  13'39	0°-58'-17	conjunction	2064 Oct 13 05:36	20°  41'26	1°05'02
minimum elong	2059 Apr 27 11:18	7°  13'41	0°58'17	minimum elong	2064 Oct 13 05:36	20°  41'27	1°05'03
max. Earth dist.	2059 Apr 29 11:00	7°  42'15	5.97277 AU	morning rise	2064 Oct 26 00:42	23°  27'39	
morning rise	2059 May 11 02:09	10°  28'57			2064 Nov 26 11:59	0° 	
	2059 May 30 10:26	15° 		retrograde	2065 Feb 23 06:13	10°  14'34	
	2059 Aug 27 19:02	0° 		opposition	2065 Apr 25 00:15	5°  22'14	1°27'17
retrograde	2059 Sep 19 13:32	0°  50'47		min. Earth dist.	2065 Apr 26 07:23	5°  12'18	4.43439 AU
	2059 Oct 12 03:32	30° 		direct	2065 Jun 26 19:29	0° 	
min. Earth dist.	2059 Nov 16 16:12	25°  57'47	4.01486 AU		2065 Oct 17 03:37	15° 	
opposition	2059 Nov 18 03:00	25°  45'56	-1°-9'-12	evening set	2065 Oct 30 20:52	17°  57'35	
direct	2060 Jan 15 03:09	20°  49'11		max. Earth dist.	2065 Nov 10 13:08	20°  18'24	6.39626 AU
	2060 Apr 04 01:52	0° 					
evening set	2060 May 20 10:17	10°  09'23		conjunction	2065 Nov 12 14:20	20°  45'31	0°50'50
				minimum elong	2065 Nov 12 14:22	20°  45'32	0°50'49
conjunction	2060 Jun 03 03:46	13°  21'13	0°-30'-18	morning rise	2065 Nov 25 05:45	23°  32'37	
minimum elong	2060 Jun 03 03:48	13°  21'14	0°30'19		2065 Dec 25 16:53	0° 	
max. Earth dist.	2060 Jun 05 09:58	13°  52'49	6.07254 AU	retrograde	2066 Mar 26 21:27	10°  27'46'43	
morning rise	2060 Jun 16 22:57	16°  33'36		opposition	2066 May 26 20:09	5°  25'44'6	0°55'34
	2060 Aug 20 18:12	0° 		min. Earth dist.	2066 May 28 08:31	5°  24'3'11	4.34419 AU
retrograde	2060 Oct 23 09:31	5°  56'15		direct	2066 Jul 28 04:46	0° 	
opposition	2060 Dec 21 23:26	0°  52'00	0°-17'-13	evening set	2066 Nov 30 20:16	18°  25'54'4	
min. Earth dist.	2060 Dec 20 15:42	1°  50'24'8	4.14131 AU	max. Earth dist.	2066 Dec 11 11:38	21°  20'03	6.27963 AU
	2060 Dec 28 09:14	30° 					
direct	2061 Feb 18 23:13	25°  52'14		conjunction	2066 Dec 13 12:18	21°  27'47'40	0°21'52
	2061 Apr 12 05:03	0° 		minimum elong	2066 Dec 13 12:19	21°  27'47'40	0°21'52
asc. node	2061 Apr 22 04:55	1°  53'3'12		morning rise	2066 Dec 26 03:19	24°  27'39'23	
evening set	2061 Jun 25 14:51	14°  53'5'06			2067 Jan 19 09:27	0° 	
				retrograde	2067 Apr 29 15:59	12°  28'46'11	
conjunction	2061 Jul 09 08:24	17°  54'03'33	0°07'28	opposition	2067 Jun 29 12:22	7°  28'53'07	0°05'37
minimum elong	2061 Jul 09 08:23	17°  54'03'33	0°07'29	min. Earth dist.	2067 Jun 30 20:45	7°  42'45	4.20771 AU
behind sun begin	2061 Jul 09 00:49	17°  53'6'18		desc. node	2067 Aug 08 17:34	3°  23'7'29	
behind sun end	2061 Jul 09 15:57	17°  54'44'47		direct	2067 Aug 29 20:31	2°  28'55'59	

evening set	2068 Jan 02 03:45	21° $\overline{3}$ 32'45		conjunction	2073 Jul 14 06:34	22° $\overline{5}$ 28'26	0°12'45
max. Earth dist.	2068 Jan 13 09:20	24° $\overline{3}$ 10'13	6.13492 AU	minimum elong	2073 Jul 14 06:33	22° $\overline{5}$ 28'25	0°12'44
				behind sun begin	2073 Jul 14 01:29	22° $\overline{5}$ 25'35	
conjunction	2068 Jan 14 21:08	24° $\overline{3}$ 31'11	0°-15'-6	behind sun end	2073 Jul 14 11:37	22° $\overline{5}$ 31'15	
minimum elong	2068 Jan 14 21:07	24° $\overline{3}$ 31'11	0°15'07	max. Earth dist.	2073 Jul 15 20:46	22° $\overline{5}$ 49'51	6.23763 AU
behind sun begin	2068 Jan 14 18:03	24° $\overline{3}$ 29'23		morning rise	2073 Jul 27 22:54	25° $\overline{5}$ 32'01	
behind sun end	2068 Jan 15 00:11	24° $\overline{3}$ 32'58			2073 Aug 17 10:18	0° $\overline{8}$	
morning rise	2068 Jan 27 15:18	27° $\overline{3}$ 30'16		retrograde	2073 Nov 29 07:52	13° $\overline{8}$ 35'27	
	2068 Feb 07 10:26	0° \approx		min. Earth dist.	2074 Jan 27 10:53	8° $\overline{8}$ 40'17	4.30652 AU
	2068 Apr 30 22:06	15° \approx		opposition	2074 Jan 28 03:53	8° $\overline{8}$ 34'36	0°43'59
retrograde	2068 Jun 03 17:39	16° \approx 45'36		direct	2074 Mar 29 16:20	3° $\overline{8}$ 32'23	
	2068 Jul 07 17:09	15° \approx			2074 Jul 03 07:57	15° $\overline{8}$	
opposition	2068 Aug 03 07:43	11° \approx 49'47	0°-49'-38	evening set	2074 Aug 03 12:24	21° $\overline{8}$ 33'01	
min. Earth dist.	2068 Aug 03 22:59	11° \approx 44'49	4.06576 AU				
direct	2068 Oct 02 04:26	6° \approx 55'01		conjunction	2074 Aug 16 23:35	24° $\overline{8}$ 29'19	0°44'56
	2068 Dec 15 21:43	15° \approx		minimum elong	2074 Aug 16 23:32	24° $\overline{8}$ 29'18	0°44'56
evening set	2069 Feb 04 10:59	26° \approx 10'44		max. Earth dist.	2074 Aug 17 12:03	24° $\overline{8}$ 36'08	6.36724 AU
				morning rise	2074 Aug 30 08:27	27° $\overline{8}$ 24'21	
conjunction	2069 Feb 17 08:55	29° \approx 16'33	0°-48'-29		2074 Sep 11 10:18	0° $\overline{9}$	
minimum elong	2069 Feb 17 08:53	29° \approx 16'32	0°48'30	retrograde	2074 Dec 29 23:19	14° $\overline{9}$ 36'00	
max. Earth dist.	2069 Feb 17 02:11	29° \approx 12'30	6.00866 AU	opposition	2075 Feb 28 03:10	9° $\overline{9}$ 38'57	1°21'18
	2069 Feb 20 09:11	0° $\overline{9}$		min. Earth dist.	2075 Feb 28 04:10	9° $\overline{9}$ 38'37	4.41405 AU
morning rise	2069 Mar 02 08:52	2° $\overline{9}$ 23'41		direct	2075 Apr 30 21:00	4° $\overline{9}$ 36'02	
retrograde	2069 Jul 11 16:18	22° $\overline{9}$ 41'01		evening set	2075 Sep 04 15:53	22° $\overline{9}$ 13'04	
opposition	2069 Sep 09 18:51	17° $\overline{9}$ 41'27	-1°-29'-39				
min. Earth dist.	2069 Sep 09 12:25	17° $\overline{9}$ 43'35	3.96830 AU	conjunction	2075 Sep 17 19:23	25° $\overline{9}$ 03'11	1°03'12
direct	2069 Nov 07 08:41	12° $\overline{9}$ 47'50		minimum elong	2075 Sep 17 19:21	25° $\overline{9}$ 03'10	1°03'12
	2070 Mar 02 08:58	0° $\overline{9}$		max. Earth dist.	2075 Sep 17 02:24	24° $\overline{9}$ 54'00	6.44422 AU
evening set	2070 Mar 12 19:09	2° $\overline{9}$ 29'33		morning rise	2075 Sep 30 20:14	27° $\overline{9}$ 51'55	
					2075 Oct 10 20:41	0° $\overline{9}$	
conjunction	2070 Mar 26 00:09	5° $\overline{9}$ 41'19	-1°-4'-37	retrograde	2076 Jan 29 01:36	14° $\overline{9}$ 37'58	
minimum elong	2070 Mar 26 00:09	5° $\overline{9}$ 41'19	1°04'37	opposition	2076 Mar 29 13:19	9° $\overline{9}$ 44'01	1°35'24
max. Earth dist.	2070 Mar 27 02:11	5° $\overline{9}$ 57'05	5.94881 AU	min. Earth dist.	2076 Mar 30 08:52	9° $\overline{9}$ 37'43	4.45707 AU
morning rise	2070 Apr 08 08:16	8° $\overline{9}$ 54'46		direct	2076 May 31 03:13	4° $\overline{9}$ 41'26	
retrograde	2070 Aug 18 20:33	29° $\overline{9}$ 37'09		evening set	2076 Oct 04 14:05	22° $\overline{9}$ 11'04	
min. Earth dist.	2070 Oct 16 11:12	24° $\overline{9}$ 43'03	3.95447 AU	max. Earth dist.	2076 Oct 15 21:27	24° $\overline{9}$ 37'52	6.44945 AU
opposition	2070 Oct 17 14:17	24° $\overline{9}$ 33'54	-1°-35'00				
direct	2070 Dec 14 10:38	19° $\overline{9}$ 39'20		conjunction	2076 Oct 17 11:14	24° $\overline{9}$ 58'23	1°04'03
	2071 Mar 09 02:49	0° $\overline{8}$		minimum elong	2076 Oct 17 11:15	24° $\overline{9}$ 58'24	1°04'03
evening set	2071 Apr 19 08:02	9° $\overline{8}$ 20'38		morning rise	2076 Oct 30 05:32	27° $\overline{9}$ 44'28	
					2076 Nov 09 18:45	0° $\overline{8}$	
conjunction	2071 May 02 20:57	12° $\overline{8}$ 34'34	0°-55'-23	retrograde	2077 Feb 27 12:58	14° $\overline{8}$ 33'37	
minimum elong	2071 May 02 20:59	12° $\overline{8}$ 34'35	0°55'23	opposition	2077 Apr 29 08:39	9° $\overline{8}$ 41'26	1°24'12
max. Earth dist.	2071 May 04 22:51	13° $\overline{8}$ 04'24	5.98149 AU	min. Earth dist.	2077 Apr 30 16:24	9° $\overline{8}$ 31'18	4.42508 AU
	2071 May 13 00:47	15° $\overline{8}$		direct	2077 Jul 01 02:14	4° $\overline{8}$ 40'10	
morning rise	2071 May 16 12:48	15° $\overline{8}$ 49'50			2077 Sep 30 04:03	15° $\overline{8}$	
	2071 Jul 22 08:26	0° $\overline{7}$		evening set	2077 Nov 04 03:37	22° $\overline{8}$ 19'42	
retrograde	2071 Sep 24 15:22	6° $\overline{7}$ 05'06		max. Earth dist.	2077 Nov 14 18:50	24° $\overline{8}$ 40'25	6.38204 AU
min. Earth dist.	2071 Nov 21 17:59	1° $\overline{7}$ 12'02	4.03002 AU				
opposition	2071 Nov 23 05:13	1° $\overline{7}$ 00'00	-1°-2'-43	conjunction	2077 Nov 16 20:40	25° $\overline{8}$ 08'01	0°47'31
	2071 Nov 30 14:26	30° $\overline{7}$		minimum elong	2077 Nov 16 20:42	25° $\overline{8}$ 08'02	0°47'32
direct	2072 Jan 20 08:43	26° $\overline{7}$ 02'43		morning rise	2077 Nov 29 11:50	27° $\overline{8}$ 55'36	
	2072 Mar 10 11:50	0° $\overline{7}$			2077 Dec 08 23:29	0° $\overline{7}$	
evening set	2072 May 25 15:56	15° $\overline{7}$ 17'39		retrograde	2078 Mar 31 12:34	15° $\overline{7}$ 16'02	
				opposition	2078 May 31 10:13	10° $\overline{7}$ 24'05	0°49'25
conjunction	2072 Jun 08 09:54	18° $\overline{7}$ 28'44	0°-25'-9	min. Earth dist.	2078 Jun 01 23:42	10° $\overline{7}$ 12'09	4.32575 AU
minimum elong	2072 Jun 08 09:56	18° $\overline{7}$ 28'45	0°25'10	direct	2078 Aug 01 16:49	5° $\overline{7}$ 24'49	
max. Earth dist.	2072 Jun 10 17:21	19° $\overline{7}$ 00'53	6.09260 AU	evening set	2078 Dec 05 06:42	23° $\overline{7}$ 30'29	
morning rise	2072 Jun 22 04:59	21° $\overline{7}$ 40'09		max. Earth dist.	2078 Dec 15 21:51	25° $\overline{7}$ 55'24	6.25851 AU
	2072 Jul 30 03:32	0° $\overline{6}$					
retrograde	2072 Oct 28 03:33	10° $\overline{6}$ 52'04		conjunction	2078 Dec 17 22:46	26° $\overline{7}$ 23'17	0°16'55
min. Earth dist.	2072 Dec 25 10:49	5° $\overline{6}$ 58'33	4.16376 AU	minimum elong	2078 Dec 17 22:47	26° $\overline{7}$ 23'18	0°16'55
opposition	2072 Dec 26 17:40	5° $\overline{6}$ 48'06	0°-9'-8	morning rise	2078 Dec 30 14:11	29° $\overline{7}$ 16'01	
direct	2073 Feb 23 21:44	0° $\overline{6}$ 47'55			2079 Jan 02 19:54	0° $\overline{6}$	
asc. node	2073 Mar 01 06:57	0° $\overline{6}$ 50'47		retrograde	2079 May 04 14:04	17° $\overline{6}$ 32'29	
evening set	2073 Jun 30 13:46	19° $\overline{6}$ 24'15		desc. node	2079 Jun 18 04:15	14° $\overline{6}$ 40'12	
				opposition	2079 Jul 04 10:05	12° $\overline{6}$ 39'07	0°-2'-15

min. Earth dist.	2079 Jul 05 15:49	12°♄29'34	4.18544 AU	conjunction	2085 Jul 19 00:52	27°♄07'03	0°17'45
direct	2079 Sep 03 12:25	7°♄42'24		minimum elong	2085 Jul 19 00:51	27°♄07'02	0°17'45
evening set	2080 Jan 06 20:39	26°♄25'29		max. Earth dist.	2085 Jul 20 11:55	27°♄26'38	6.25863 AU
max. Earth dist.	2080 Jan 18 07:26	29°♄06'41	6.11366 AU		2085 Jul 31 23:21	0°♄	
				morning rise	2085 Aug 01 16:12	0°♄09'20	
conjunction	2080 Jan 19 14:36	29°♄25'02	0°-20'-21		2085 Oct 19 16:49	15°♄	
minimum elong	2080 Jan 19 14:35	29°♄25'01	0°20'21	retrograde	2085 Dec 03 15:22	18°♄04'09	
	2080 Jan 22 01:58	0°♄			2086 Jan 17 13:52	15°♄	
morning rise	2080 Feb 01 09:19	2°♄25'18		opposition	2086 Feb 01 11:39	13°♄03'53	0°50'17
	2080 Mar 31 11:22	15°♄		min. Earth dist.	2086 Jan 31 21:30	13°♄08'36	4.32454 AU
retrograde	2080 Jun 09 01:21	21°♄50'58		direct	2086 Apr 03 04:28	8°♄01'32	
opposition	2080 Aug 08 12:57	16°♄54'44	0°-56'-44		2086 Jun 14 01:10	15°♄	
min. Earth dist.	2080 Aug 09 01:56	16°♄50'30	4.04758 AU	evening set	2086 Aug 08 00:36	25°♄58'08	
	2080 Aug 23 14:23	15°♄					
direct	2080 Oct 07 05:24	12°♄00'20		conjunction	2086 Aug 21 10:41	28°♄53'28	0°48'23
	2080 Nov 19 18:34	15°♄		minimum elong	2086 Aug 21 10:39	28°♄53'26	0°48'23
	2081 Feb 03 19:33	0°♄		max. Earth dist.	2086 Aug 21 17:37	28°♄57'14	6.38081 AU
evening set	2081 Feb 09 11:38	1°♄21'05			2086 Aug 26 12:44	0°♄	
				morning rise	2086 Sep 03 18:37	1°♄47'32	
conjunction	2081 Feb 22 10:21	4°♄27'53	0°-52'-5	retrograde	2087 Jan 03 03:31	18°♄54'31	
minimum elong	2081 Feb 22 10:19	4°♄27'52	0°52'06	opposition	2087 Mar 04 08:06	13°♄57'56	1°24'43
max. Earth dist.	2081 Feb 22 07:54	4°♄26'24	5.99543 AU	min. Earth dist.	2087 Mar 04 12:12	13°♄56'36	4.42262 AU
morning rise	2081 Mar 07 11:26	7°♄36'06		direct	2087 May 05 04:52	8°♄54'58	
retrograde	2081 Jul 17 01:33	27°♄59'33		evening set	2087 Sep 08 23:31	26°♄30'39	
opposition	2081 Sep 15 03:12	22°♄59'28	-1°-32'-46	max. Earth dist.	2087 Sep 21 06:56	29°♄09'52	6.44720 AU
min. Earth dist.	2081 Sep 14 16:24	23°♄03'03	3.96195 AU				
direct	2081 Nov 12 12:38	18°♄05'55		conjunction	2087 Sep 22 02:13	29°♄20'18	1°04'22
	2082 Feb 12 09:07	0°♄		minimum elong	2087 Sep 22 02:12	29°♄20'17	1°04'22
evening set	2082 Mar 18 01:08	7°♄48'46			2087 Sep 25 03:39	0°♄	
				morning rise	2087 Oct 05 01:56	2°♄08'30	
conjunction	2082 Mar 31 07:12	11°♄00'59	-1°-4'-52	retrograde	2088 Feb 02 05:40	18°♄54'05	
minimum elong	2082 Mar 31 07:12	11°♄00'59	1°04'53	opposition	2088 Apr 02 18:43	14°♄00'30	1°35'20
max. Earth dist.	2082 Apr 01 13:31	11°♄19'21	5.94982 AU	min. Earth dist.	2088 Apr 03 15:50	13°♄53'42	4.45458 AU
morning rise	2082 Apr 13 16:26	14°♄14'53		direct	2088 Jun 04 09:05	8°♄58'05	
	2082 Jun 27 18:48	0°♄		evening set	2088 Oct 08 20:19	26°♄28'57	
retrograde	2082 Aug 24 02:26	4°♄55'35		max. Earth dist.	2088 Oct 19 23:30	28°♄53'53	6.44164 AU
	2082 Oct 21 20:08	30°♄					
opposition	2082 Oct 22 20:04	29°♄51'53	-1°-32'-28	conjunction	2088 Oct 21 16:39	29°♄16'18	1°02'44
min. Earth dist.	2082 Oct 21 15:11	0°♄01'41	3.96274 AU	minimum elong	2088 Oct 21 16:40	29°♄16'18	1°02'43
direct	2082 Dec 19 16:51	24°♄57'02			2088 Oct 25 00:55	0°♄	
	2083 Feb 14 07:50	0°♄		morning rise	2088 Nov 03 10:31	2°♄02'30	
evening set	2083 Apr 24 14:07	14°♄34'45			2089 Jan 11 00:31	15°♄	
	2083 Apr 26 08:44	15°♄		retrograde	2089 Mar 03 23:18	18°♄55'10	
					2089 Apr 26 06:21	15°♄	
conjunction	2083 May 08 04:05	17°♄48'27	0°-52'-8	opposition	2089 May 03 18:03	14°♄03'06	1°20'38
minimum elong	2083 May 08 04:07	17°♄48'28	0°52'09	min. Earth dist.	2089 May 05 03:48	13°♄52'20	4.41251 AU
max. Earth dist.	2083 May 10 09:33	18°♄20'16	5.99616 AU	direct	2089 Jul 05 11:25	9°♄02'03	
morning rise	2083 May 21 20:32	21°♄03'18			2089 Sep 10 03:26	15°♄	
	2083 Jun 30 15:20	0°♄		evening set	2089 Nov 08 10:56	26°♄45'02	
retrograde	2083 Sep 29 14:37	11°♄09'59		max. Earth dist.	2089 Nov 19 01:45	29°♄06'05	6.36571 AU
min. Earth dist.	2083 Nov 26 16:30	6°♄16'54	4.04928 AU				
opposition	2083 Nov 28 03:41	6°♄04'55	0°-55'-58	conjunction	2089 Nov 21 03:51	29°♄33'55	0°43'56
direct	2084 Jan 25 10:02	1°♄07'15		minimum elong	2089 Nov 21 03:53	29°♄33'56	0°43'56
evening set	2084 May 30 17:41	20°♄15'58			2089 Nov 23 02:46	0°♄	
				morning rise	2089 Dec 03 18:52	2°♄22'07	
conjunction	2084 Jun 13 11:38	23°♄26'05	0°-20'00	retrograde	2090 Apr 05 03:23	19°♄49'33	
minimum elong	2084 Jun 13 11:39	23°♄26'06	0°20'00	opposition	2090 Jun 05 01:50	14°♄57'26	0°42'54
max. Earth dist.	2084 Jun 15 16:25	23°♄56'32	6.11448 AU	min. Earth dist.	2090 Jun 06 13:41	14°♄46'01	4.30679 AU
morning rise	2084 Jun 27 06:47	26°♄36'29		direct	2090 Aug 06 03:57	9°♄58'32	
	2084 Jul 12 07:26	0°♄		evening set	2090 Dec 09 18:13	28°♄09'05	
retrograde	2084 Nov 01 16:02	15°♄37'46			2090 Dec 17 20:49	0°♄	
min. Earth dist.	2084 Dec 30 02:11	10°♄44'06	4.18603 AU	max. Earth dist.	2090 Dec 20 12:06	0°♄36'14	6.23852 AU
opposition	2084 Dec 31 07:35	10°♄34'07	0°-1'-19				
asc. node	2085 Jan 09 18:27	9°♄18'12		conjunction	2090 Dec 22 10:21	1°♄02'44	0°11'51
direct	2085 Feb 28 15:45	5°♄33'34		minimum elong	2090 Dec 22 10:22	1°♄02'44	0°11'50
evening set	2085 Jul 05 08:32	24°♄04'00		behind sun begin	2090 Dec 22 04:43	0°♄59'31	
				behind sun end	2090 Dec 22 16:00	1°♄05'57	

morning rise	2091 Jan 04 02:01	3°♄56'23		min. Earth dist.	2097 Jan 03 18:02	15°♄26'06	4.20489 AU
desc. node	2091 Apr 27 15:29	22°♄08'32		direct	2097 Mar 05 09:46	10°♄16'10	
retrograde	2091 May 09 14:30	22°♄21'57		evening set	2097 Jul 10 02:53	28°♄41'55	
opposition	2091 Jul 09 09:02	17°♄28'15	0°-10'-13		2097 Jul 15 23:42	0°♄	
min. Earth dist.	2091 Jul 10 13:30	17°♄19'06	4.16576 AU				
direct	2091 Sep 08 08:01	12°♄31'52		conjunction	2097 Jul 23 18:34	1°♄43'57	0°22'39
	2092 Jan 05 21:12	0°♄		minimum elong	2097 Jul 23 18:33	1°♄43'56	0°22'39
evening set	2092 Jan 11 14:16	1°♄19'58		max. Earth dist.	2097 Jul 25 01:56	2°♄01'24	6.27587 AU
max. Earth dist.	2092 Jan 23 04:38	4°♄03'54	6.09602 AU	morning rise	2097 Aug 06 09:09	4°♄45'10	
					2097 Sep 25 08:08	15°♄	
conjunction	2092 Jan 24 08:40	4°♄20'28	0°-25'-28	retrograde	2097 Dec 07 21:46	22°♄32'48	
minimum elong	2092 Jan 24 08:39	4°♄20'27	0°25'29	opposition	2098 Feb 05 19:49	17°♄33'02	0°56'19
morning rise	2092 Feb 06 04:08	7°♄21'47		min. Earth dist.	2098 Feb 05 07:40	17°♄37'04	4.33902 AU
	2092 Mar 10 22:53	15°♄			2098 Feb 25 23:52	15°♄♄	
retrograde	2092 Jun 14 05:45	26°♄55'55		direct	2098 Apr 07 15:44	12°♄30'32	
opposition	2092 Aug 13 17:25	21°♄59'09	-1°-3'-24		2098 May 18 20:07	15°♄	
min. Earth dist.	2092 Aug 14 02:15	21°♄56'16	4.03373 AU		2098 Aug 10 16:34	0°♄	
direct	2092 Oct 12 04:34	17°♄04'57		evening set	2098 Aug 12 13:28	0°♄24'14	
	2093 Jan 17 14:36	0°♄					
evening set	2093 Feb 14 11:31	6°♄29'05		conjunction	2098 Aug 25 22:38	3°♄18'44	0°51'36
				minimum elong	2098 Aug 25 22:36	3°♄18'43	0°51'35
conjunction	2093 Feb 27 11:03	9°♄36'39	0°-55'-16	max. Earth dist.	2098 Aug 26 02:10	3°♄20'40	6.39152 AU
minimum elong	2093 Feb 27 11:01	9°♄36'38	0°55'17	morning rise	2098 Sep 08 05:21	6°♄11'55	
max. Earth dist.	2093 Feb 27 13:14	9°♄37'58	5.98639 AU	retrograde	2099 Jan 07 09:20	23°♄15'07	
morning rise	2093 Mar 12 13:07	12°♄45'42		opposition	2099 Mar 08 14:15	18°♄19'05	1°27'42
	2093 Jun 06 10:40	0°♄		min. Earth dist.	2099 Mar 08 21:03	18°♄16'52	4.42906 AU
retrograde	2093 Jul 22 08:57	3°♄13'30		direct	2099 May 09 14:22	13°♄16'14	
	2093 Sep 06 16:48	30°♄			2099 Sep 09 09:03	0°♄	
opposition	2093 Sep 20 09:36	28°♄12'46	-1°-35'-6	evening set	2099 Sep 13 08:33	0°♄51'05	
min. Earth dist.	2093 Sep 19 20:14	28°♄17'14	3.95873 AU	max. Earth dist.	2099 Sep 25 10:37	3°♄27'31	6.44883 AU
direct	2093 Nov 17 17:06	23°♄19'07					
	2094 Jan 22 16:47	0°♄		conjunction	2099 Sep 26 10:13	3°♄40'17	1°05'12
evening set	2094 Mar 23 05:02	13°♄02'04		minimum elong	2099 Sep 26 10:12	3°♄40'17	1°05'12
				morning rise	2099 Oct 09 09:08	6°♄28'07	
conjunction	2094 Apr 05 12:18	16°♄14'40	-1°-4'-36	retrograde	2100 Feb 06 12:44	23°♄13'41	
minimum elong	2094 Apr 05 12:19	16°♄14'40	1°04'37	opposition	2100 Apr 08 02:06	18°♄20'25	1°34'47
max. Earth dist.	2094 Apr 06 23:39	16°♄36'01	5.95266 AU	min. Earth dist.	2100 Apr 09 01:14	18°♄12'58	4.45172 AU
morning rise	2094 Apr 18 22:32	19°♄28'52		direct	2100 Jun 09 17:30	13°♄18'13	
	2094 Jun 04 13:19	0°♄			2100 Oct 10 06:23	0°♄	
retrograde	2094 Aug 29 06:53	10°♄07'01		evening set	2100 Oct 14 03:35	0°♄50'14	
opposition	2094 Oct 27 23:02	5°♄03'00	-1°-29'-16	max. Earth dist.	2100 Oct 25 06:10	3°♄15'07	6.43470 AU
min. Earth dist.	2094 Oct 26 16:56	5°♄13'13	3.97152 AU				
direct	2094 Dec 24 20:01	0°♄07'50		conjunction	2100 Oct 26 23:25	3°♄37'37	1°01'03
	2095 Apr 09 11:53	15°♄		minimum elong	2100 Oct 26 23:26	3°♄37'38	1°01'03
evening set	2095 Apr 29 18:23	19°♄42'14		morning rise	2100 Nov 08 16:33	6°♄23'52	
					2100 Dec 20 16:46	15°♄	
conjunction	2095 May 13 09:00	22°♄55'38	0°-48'-33				
minimum elong	2095 May 13 09:03	22°♄55'39	0°48'35				
max. Earth dist.	2095 May 15 14:17	23°♄27'12	6.00978 AU				
morning rise	2095 May 27 02:18	26°♄10'11					
	2095 Jun 12 15:10	0°♄					
retrograde	2095 Oct 04 09:42	16°♄08'49					
opposition	2095 Dec 02 23:42	11°♄03'48	0°-48'-58				
min. Earth dist.	2095 Dec 01 12:22	11°♄15'51	4.06622 AU				
direct	2096 Jan 30 08:33	6°♄05'40					
evening set	2096 Jun 04 17:56	25°♄09'27					
conjunction	2096 Jun 18 12:07	28°♄18'48	0°-14'-47				
minimum elong	2096 Jun 18 12:08	28°♄18'48	0°14'48				
behind sun begin	2096 Jun 18 09:10	28°♄17'06					
behind sun end	2096 Jun 18 15:06	28°♄20'30					
max. Earth dist.	2096 Jun 20 15:21	28°♄48'14	6.13338 AU				
	2096 Jun 25 20:28	0°♄					
morning rise	2096 Jul 02 07:00	1°♄28'13					
retrograde	2096 Nov 06 05:55	20°♄20'15					
asc. node	2096 Nov 20 06:08	20°♄00'32					
opposition	2097 Jan 04 20:51	15°♄17'01	0°06'24				

retrograde	2100 Feb 06 12:44	23°♄13'41		retrograde	2105 Jul 28 12:04	8°♃17'57	
opposition	2100 Apr 08 02:06	18°♄20'25	1°34'47	opposition	2105 Sep 26 11:20	3°♃16'48	-1°-36'-34
min. Earth dist.	2100 Apr 09 01:14	18°♄12'58	4.45172 AU	min. Earth dist.	2105 Sep 25 19:54	3°♃21'57	3.95782 AU
direct	2100 Jun 09 17:30	13°♄18'13			2105 Oct 23 10:26	30°♄	
	2100 Oct 10 06:23	0°♄		direct	2105 Nov 23 15:54	28°♄23'04	
evening set	2100 Oct 14 03:35	0°♄50'14			2105 Dec 24 17:27	0°♃	
max. Earth dist.	2100 Oct 25 06:10	3°♄15'07	6.43470 AU	evening set	2106 Mar 29 05:17	18°♃05'43	
conjunction	2100 Oct 26 23:25	3°♄37'37	1°01'03	conjunction	2106 Apr 11 13:25	21°♃18'36	-1°-3'-51
minimum elong	2100 Oct 26 23:26	3°♄37'38	1°01'03	minimum elong	2106 Apr 11 13:26	21°♃18'36	1°03'51
morning rise	2100 Nov 08 16:33	6°♄23'52		max. Earth dist.	2106 Apr 13 01:51	21°♃40'34	5.95636 AU
	2100 Dec 20 16:46	15°♄		morning rise	2106 Apr 25 00:52	24°♃33'08	
retrograde	2101 Mar 09 08:38	23°♄19'49			2106 May 18 07:23	0°♄	
opposition	2101 May 09 04:56	18°♄27'54	1°16'35		2106 Aug 26 00:05	15°♄	
min. Earth dist.	2101 May 10 14:26	18°♄17'14	4.40213 AU	retrograde	2106 Sep 04 04:52	15°♄08'26	
	2101 Jun 08 07:45	15°♄			2106 Sep 13 09:19	15°♄	
direct	2101 Jul 10 20:19	13°♄27'16		opposition	2106 Nov 02 21:07	10°♄04'10	-1°-25'-32
	2101 Aug 12 10:58	15°♄		min. Earth dist.	2106 Nov 01 13:31	10°♄14'54	3.97951 AU
	2101 Nov 08 06:53	0°♄		direct	2106 Dec 30 18:19	5°♄08'36	
evening set	2101 Nov 13 19:18	1°♄12'48			2107 Mar 23 11:11	15°♄	
max. Earth dist.	2101 Nov 24 09:27	3°♄34'00	6.35284 AU	evening set	2107 May 05 18:32	24°♄40'27	
conjunction	2101 Nov 26 11:45	4°♄02'03	0°40'06	conjunction	2107 May 19 10:06	27°♄53'43	0°-44'-47
minimum elong	2101 Nov 26 11:46	4°♄02'04	0°40'06	minimum elong	2107 May 19 10:09	27°♄53'44	0°44'48
morning rise	2101 Dec 09 02:43	6°♄50'44		max. Earth dist.	2107 May 21 16:07	28°♄25'38	6.02148 AU
retrograde	2102 Apr 10 20:24	24°♄24'04			2107 May 28 08:06	0°♄	
opposition	2102 Jun 10 18:00	19°♄31'51	0°36'10	morning rise	2107 Jun 02 03:54	1°♄07'57	
min. Earth dist.	2102 Jun 12 05:46	19°♄20'27	4.29211 AU	retrograde	2107 Oct 10 03:49	20°♄59'43	
direct	2102 Aug 11 18:25	14°♄33'19		min. Earth dist.	2107 Dec 07 06:36	16°♄06'18	4.08017 AU
	2102 Dec 02 20:23	0°♄		opposition	2107 Dec 08 16:17	15°♄54'49	0°-41'-56
evening set	2102 Dec 15 05:26	2°♄47'17		direct	2108 Feb 05 04:24	10°♄56'18	
max. Earth dist.	2102 Dec 26 01:40	5°♄16'17	6.22339 AU	evening set	2108 Jun 10 15:19	29°♄56'25	
conjunction	2102 Dec 27 21:43	5°♄41'35	0°06'47		2108 Jun 10 21:37	0°♄	
minimum elong	2102 Dec 27 21:44	5°♄41'36	0°06'47	conjunction	2108 Jun 24 09:34	3°♄05'08	0°-9'-40
behind sun begin	2102 Dec 27 14:18	5°♄37'20		minimum elong	2108 Jun 24 09:35	3°♄05'08	0°09'41
behind sun end	2102 Dec 28 05:11	5°♄45'51		behind sun begin	2108 Jun 24 02:45	3°♄01'15	
morning rise	2103 Jan 09 13:38	8°♄36'00		behind sun end	2108 Jun 24 16:24	3°♄09'01	
desc. node	2103 Mar 09 11:23	20°♄48'45		max. Earth dist.	2108 Jun 26 11:10	3°♄33'30	6.14854 AU
retrograde	2103 May 15 11:00	27°♄08'56		morning rise	2108 Jul 08 04:19	6°♄13'47	
opposition	2103 Jul 15 06:35	22°♄14'54	0°-17'-55	asc. node	2108 Oct 03 03:50	22°♄31'59	
min. Earth dist.	2103 Jul 16 08:02	22°♄06'42	4.15133 AU	retrograde	2108 Nov 11 15:23	24°♄58'00	
direct	2103 Sep 14 00:36	17°♄18'54		min. Earth dist.	2109 Jan 09 05:43	20°♄03'57	4.21999 AU
	2103 Dec 21 04:17	0°♄		opposition	2109 Jan 10 07:42	19°♄55'11	0°13'50
evening set	2104 Jan 17 06:06	6°♄10'20		direct	2109 Mar 10 23:22	14°♄54'02	
max. Earth dist.	2104 Jan 29 00:21	8°♄57'01	6.08348 AU		2109 Jun 30 19:15	0°♄	
conjunction	2104 Jan 30 00:51	9°♄11'32	0°-30'-15	evening set	2109 Jul 15 19:46	3°♄16'28	
minimum elong	2104 Jan 30 00:49	9°♄11'31	0°30'16	conjunction	2109 Jul 29 10:46	6°♄17'37	0°27'16
morning rise	2104 Feb 11 20:57	12°♄13'40		minimum elong	2109 Jul 29 10:45	6°♄17'36	0°27'16
	2104 Feb 23 18:11	15°♄		max. Earth dist.	2109 Jul 30 14:11	6°♄32'50	6.28993 AU
	2104 May 16 04:04	0°♄		morning rise	2109 Aug 12 00:31	9°♄17'52	
retrograde	2104 Jun 20 08:55	1°♄54'35			2109 Sep 07 15:55	15°♄	
	2104 Jul 25 15:46	30°♄		retrograde	2109 Dec 13 05:26	26°♄59'19	
opposition	2104 Aug 19 18:58	26°♄57'18	-1°-9'-21	opposition	2110 Feb 11 03:08	22°♄00'03	1°01'52
min. Earth dist.	2104 Aug 20 01:30	26°♄55'09	4.02415 AU	min. Earth dist.	2110 Feb 10 17:58	22°♄03'06	4.35104 AU
direct	2104 Oct 18 03:16	22°♄03'13		direct	2110 Apr 13 04:09	16°♄57'25	
	2104 Dec 30 13:54	0°♄			2110 Jul 26 06:44	0°♄	
evening set	2105 Feb 20 08:15	11°♄29'26		evening set	2110 Aug 18 01:21	4°♄48'40	
conjunction	2105 Mar 05 08:43	14°♄37'38	0°-57'-54	conjunction	2110 Aug 31 09:35	7°♄42'25	0°54'26
minimum elong	2105 Mar 05 08:41	14°♄37'37	0°57'55	minimum elong	2110 Aug 31 09:33	7°♄42'23	0°54'26
max. Earth dist.	2105 Mar 05 15:36	14°♄41'47	5.98070 AU	max. Earth dist.	2110 Aug 31 09:58	7°♄42'37	6.40055 AU
morning rise	2105 Mar 18 11:39	17°♄47'20		morning rise	2110 Sep 13 15:15	10°♄34'47	
	2105 May 12 16:34	0°♄		retrograde	2111 Jan 12 13:00	27°♄34'34	

opposition	2111 Mar 13 20:06	22° $\mathring{\text{M}}$ 38'52	1°30'07			2116 Dec 04 14:51	0° H	
min. Earth dist.	2111 Mar 14 04:18	22° $\mathring{\text{M}}$ 36'12	4.43478 AU	evening set		2117 Feb 25 08:13	16° H 36'17	
direct	2111 May 14 22:22	17° $\mathring{\text{M}}$ 35'59						
	2111 Aug 25 00:00	0° L		conjunction		2117 Mar 10 09:31	19° H 45'21	-1°00'-12
evening set	2111 Sep 18 16:36	5° L 09'44		minimum elong		2117 Mar 10 09:30	19° H 45'21	1°00'14
				max. Earth dist.		2117 Mar 10 19:19	19° H 51'17	5.97067 AU
conjunction	2111 Oct 01 17:22	7° L 58'28	1°05'39	morning rise		2117 Mar 23 13:45	22° H 56'04	
minimum elong	2111 Oct 01 17:21	7° L 58'28	1°05'38			2117 Apr 22 22:55	0° Y	
max. Earth dist.	2111 Sep 30 16:03	7° L 44'46	6.45072 AU	retrograde		2117 Aug 02 17:44	13° Y 31'11	
morning rise	2111 Oct 14 15:14	10° L 45'50		opposition		2117 Oct 01 16:38	8° Y 29'30	-1°-37'-25
retrograde	2112 Feb 11 18:01	27° L 31'01		min. Earth dist.		2117 Sep 30 21:55	8° Y 35'47	3.95350 AU
opposition	2112 Apr 12 08:47	22° L 37'59	1°33'40	direct		2117 Nov 28 18:33	3° Y 35'39	
min. Earth dist.	2112 Apr 13 09:37	22° L 30'01	4.44953 AU	evening set		2118 Apr 03 09:51	23° Y 19'21	
direct	2112 Jun 14 01:48	17° L 35'56						
	2112 Sep 24 00:51	0° M		conjunction		2118 Apr 16 19:19	26° Y 32'43	-1°-2'-35
evening set	2112 Oct 18 09:50	5° M 08'26		minimum elong		2118 Apr 16 19:20	26° Y 32'44	1°02'36
max. Earth dist.	2112 Oct 29 08:39	7° M 31'36	6.42822 AU	max. Earth dist.		2118 Apr 18 12:13	26° Y 57'22	5.95824 AU
				morning rise		2118 Apr 30 07:44	29° Y 47'39	
conjunction	2112 Oct 31 04:54	7° M 55'48	0°59'03			2118 May 01 04:26	0° B	
minimum elong	2112 Oct 31 04:56	7° M 55'49	0°59'03			2118 Jul 11 11:59	15° B	
morning rise	2112 Nov 12 21:40	10° M 42'07		retrograde		2118 Sep 09 09:34	20° B 20'33	
	2112 Dec 03 01:18	15° M		opposition		2118 Nov 07 23:40	15° B 16'04	-1°-21'-1
retrograde	2113 Mar 13 18:24	27° M 41'07		min. Earth dist.		2118 Nov 06 15:41	15° B 26'57	3.98739 AU
opposition	2113 May 13 14:52	22° M 49'10	1°12'07			2118 Nov 09 22:54	15° R B	
min. Earth dist.	2113 May 15 01:27	22° M 38'08	4.39146 AU	direct		2119 Jan 04 22:11	10° B 20'13	
direct	2113 Jul 15 05:52	17° M 48'41				2119 Feb 28 07:48	15° B	
	2113 Oct 22 23:49	0° J		evening set		2119 May 10 23:44	29° B 49'27	
evening set	2113 Nov 18 02:02	5° J 36'47				2119 May 11 17:43	0° II	
max. Earth dist.	2113 Nov 28 17:10	7° J 58'57	6.33862 AU					
				conjunction		2119 May 24 16:00	3° II 02'28	0°-40'-30
conjunction	2113 Nov 30 18:26	8° J 26'31	0°36'02	minimum elong		2119 May 24 16:03	3° II 02'29	0°40'31
minimum elong	2113 Nov 30 18:28	8° J 26'32	0°36'02	max. Earth dist.		2119 May 26 23:27	3° II 35'06	6.03472 AU
morning rise	2113 Dec 13 09:11	11° J 15'43		morning rise		2119 Jun 07 10:24	6° II 16'20	
retrograde	2114 Apr 15 10:29	28° J 55'33		retrograde		2119 Oct 14 22:56	26° II 00'02	
opposition	2114 Jun 15 09:16	24° J 03'10	0°29'11	min. Earth dist.		2119 Dec 12 01:56	21° II 07'03	4.09759 AU
min. Earth dist.	2114 Jun 16 20:05	23° J 52'04	4.27501 AU	opposition		2119 Dec 13 12:22	20° II 55'20	0°-34'-19
direct	2114 Aug 16 05:55	19° J 04'59		direct		2120 Feb 10 02:26	15° II 56'30	
	2114 Nov 15 22:34	0° Z				2120 May 24 19:59	0° S	
evening set	2114 Dec 19 16:05	7° Z 23'19		evening set		2120 Jun 15 16:22	4° S 51'37	
max. Earth dist.	2114 Dec 30 13:22	9° Z 53'36	6.20467 AU					
				conjunction		2120 Jun 29 10:25	7° S 59'22	0°-4'-19
conjunction	2115 Jan 01 08:24	10° Z 18'26	0°01'36	minimum elong		2120 Jun 29 10:25	7° S 59'22	0°04'20
minimum elong	2115 Jan 01 08:23	10° Z 18'25	0°01'37	behind sun begin		2120 Jun 29 02:12	7° S 54'42	
behind sun begin	2115 Jan 01 00:24	10° Z 13'50		behind sun end		2120 Jun 29 18:38	8° S 04'01	
behind sun end	2115 Jan 01 16:23	10° Z 23'01		max. Earth dist.		2120 Jul 01 09:30	8° S 26'10	6.16889 AU
morning rise	2115 Jan 14 00:45	13° Z 13'47		morning rise		2120 Jul 13 04:49	11° S 06'56	
desc. node	2115 Jan 17 22:16	14° Z 07'18		asc. node		2120 Aug 13 02:13	17° S 51'21	
	2115 Apr 14 19:50	0° \approx		retrograde		2120 Nov 16 04:27	29° S 41'24	
retrograde	2115 May 20 10:25	1° \approx 55'47		opposition		2121 Jan 14 21:04	24° S 39'00	0°21'22
	2115 Jun 25 06:36	30° R Z		min. Earth dist.		2121 Jan 13 21:24	24° S 46'58	4.24137 AU
opposition	2115 Jul 20 04:30	27° Z 01'22	0°-25'-38	direct		2121 Mar 15 18:32	19° S 37'37	
min. Earth dist.	2115 Jul 21 04:25	26° Z 53'39	4.13221 AU			2121 Jun 12 23:59	0° Q	
direct	2115 Sep 18 18:57	22° Z 05'37		evening set		2121 Jul 20 13:34	7° Q 54'14	
	2115 Dec 02 07:44	0° \approx						
evening set	2116 Jan 21 22:58	11° \approx 02'22		conjunction		2121 Aug 03 03:50	10° Q 54'11	0°31'48
				minimum elong		2121 Aug 03 03:48	10° Q 54'10	0°31'47
conjunction	2116 Feb 03 18:27	14° \approx 04'37	0°-34'-56	max. Earth dist.		2121 Aug 04 05:32	11° Q 08'22	6.31078 AU
minimum elong	2116 Feb 03 18:25	14° \approx 04'35	0°34'57	morning rise		2121 Aug 16 16:24	13° Q 53'05	
max. Earth dist.	2116 Feb 02 22:06	13° \approx 52'31	6.06575 AU			2121 Aug 21 18:58	15° Q	
	2116 Feb 07 15:38	15° \approx				2121 Nov 17 04:20	0° $\mathring{\text{M}}$	
morning rise	2116 Feb 16 15:15	17° \approx 07'51		retrograde		2121 Dec 17 09:56	1° $\mathring{\text{M}}$ 26'12	
	2116 Apr 16 13:31	0° H				2122 Jan 16 12:50	30° R Q	
retrograde	2116 Jun 25 14:10	6° H 57'31		opposition		2122 Feb 15 10:32	26° Q 27'26	1°07'03
opposition	2116 Aug 24 22:19	1° H 59'46	-1°-15'00	min. Earth dist.		2122 Feb 15 02:34	26° Q 30'04	4.36988 AU
min. Earth dist.	2116 Aug 25 02:08	1° H 58'31	4.00971 AU	direct		2122 Apr 17 15:16	21° Q 24'44	
	2116 Sep 09 13:50	30° R \approx				2122 Jul 08 03:30	0° $\mathring{\text{M}}$	
direct	2116 Oct 23 01:27	27° \approx 05'53		evening set		2122 Aug 22 12:05	9° $\mathring{\text{M}}$ 11'11	

conjunction	2122 Sep 04 19:04	12° \mathbb{M} 03'49	0°56'57		2128 Jan 22 16:27	15° \approx	
minimum elong	2122 Sep 04 19:02	12° \mathbb{M} 03'48	0°56'57	evening set	2128 Jan 26 16:46	15° \approx 56'53	
max. Earth dist.	2122 Sep 04 15:09	12° \mathbb{M} 01'42	6.41589 AU				
morning rise	2122 Sep 17 23:33	14° \mathbb{M} 55'06		conjunction	2128 Feb 08 12:50	19° \approx 00'25	0°-39'-21
	2122 Dec 13 02:50	0° $\underline{\mathbb{A}}$		minimum elong	2128 Feb 08 12:48	19° \approx 00'23	0°39'21
retrograde	2123 Jan 16 16:16	1° $\underline{\mathbb{A}}$ 49'45		max. Earth dist.	2128 Feb 07 18:49	18° \approx 49'39	6.04308 AU
	2123 Feb 20 04:52	30° \mathbb{R} \mathbb{M}		morning rise	2128 Feb 21 10:47	22° \approx 05'06	
opposition	2123 Mar 18 00:16	26° \mathbb{M} 54'30	1°31'59		2128 Mar 27 03:13	0° \mathbb{H}	
min. Earth dist.	2123 Mar 18 11:47	26° \mathbb{M} 50'45	4.44562 AU	retrograde	2128 Jun 30 20:31	12° \mathbb{H} 05'32	
direct	2123 May 19 07:08	21° \mathbb{M} 51'39		opposition	2128 Aug 30 03:28	7° \mathbb{H} 07'11	-1°-20'-6
	2123 Aug 07 02:24	0° $\underline{\mathbb{A}}$		min. Earth dist.	2128 Aug 30 03:27	7° \mathbb{H} 07'11	3.99100 AU
evening set	2123 Sep 22 21:42	9° $\underline{\mathbb{A}}$ 22'42		direct	2128 Oct 28 01:07	2° \mathbb{H} 13'24	
				evening set	2129 Mar 02 10:45	21° \mathbb{H} 49'31	
conjunction	2123 Oct 05 21:32	12° $\underline{\mathbb{A}}$ 10'51	1°05'44				
minimum elong	2123 Oct 05 21:32	12° $\underline{\mathbb{A}}$ 10'51	1°05'43	conjunction	2129 Mar 15 13:22	24° \mathbb{H} 59'44	-1°-2'-1
max. Earth dist.	2123 Oct 04 16:28	11° $\underline{\mathbb{A}}$ 55'08	6.45600 AU	minimum elong	2129 Mar 15 13:21	24° \mathbb{H} 59'44	1°02'02
morning rise	2123 Oct 18 18:30	14° $\underline{\mathbb{A}}$ 57'40		max. Earth dist.	2129 Mar 16 05:36	25° \mathbb{H} 09'35	5.95787 AU
	2124 Jan 13 10:37	0° \mathbb{M}		morning rise	2129 Mar 28 18:41	28° \mathbb{H} 11'33	
retrograde	2124 Feb 15 19:59	1° \mathbb{M} 41'52			2129 Apr 05 08:03	0° \mathbb{Y}	
	2124 Mar 20 08:35	30° \mathbb{R} $\underline{\mathbb{A}}$		retrograde	2129 Aug 08 04:56	18° \mathbb{Y} 51'41	
opposition	2124 Apr 16 12:43	26° $\underline{\mathbb{A}}$ 49'00	1°32'04	min. Earth dist.	2129 Oct 06 03:43	13° \mathbb{Y} 56'30	3.94822 AU
min. Earth dist.	2124 Apr 17 15:13	26° $\underline{\mathbb{A}}$ 40'30	4.44898 AU	opposition	2129 Oct 07 00:35	13° \mathbb{Y} 49'29	-1°-37'-24
direct	2124 Jun 18 06:25	21° $\underline{\mathbb{A}}$ 47'02		direct	2129 Dec 04 00:58	8° \mathbb{Y} 55'27	
	2124 Sep 06 11:17	0° \mathbb{M}		evening set	2130 Apr 08 17:59	28° \mathbb{Y} 40'14	
evening set	2124 Oct 22 12:22	9° \mathbb{M} 19'43			2130 Apr 14 06:58	0° \mathbb{B}	
max. Earth dist.	2124 Nov 02 09:44	11° \mathbb{M} 42'19	6.42174 AU				
conjunction	2124 Nov 04 06:57	12° \mathbb{M} 07'05	0°56'46	conjunction	2130 Apr 22 04:34	1° \mathbb{B} 54'02	-1°00'-44
minimum elong	2124 Nov 04 06:59	12° \mathbb{M} 07'06	0°56'47	minimum elong	2130 Apr 22 04:36	1° \mathbb{B} 54'03	1°00'45
morning rise	2124 Nov 16 23:06	14° \mathbb{M} 53'28		max. Earth dist.	2130 Apr 24 01:26	2° \mathbb{B} 21'01	5.96083 AU
	2124 Nov 17 11:07	15° \mathbb{M}		morning rise	2130 May 05 18:15	5° \mathbb{B} 09'21	
retrograde	2125 Feb 10 04:49	0° \mathbb{J}			2130 Jun 18 08:13	15° \mathbb{B}	
	2125 Mar 18 00:22	1° \mathbb{J} 55'58		retrograde	2130 Sep 14 13:58	25° \mathbb{B} 38'29	
	2125 Apr 23 02:36	30° \mathbb{R} \mathbb{M}		min. Earth dist.	2130 Nov 11 17:34	20° \mathbb{B} 45'29	3.99757 AU
opposition	2125 May 17 22:01	27° \mathbb{M} 04'04	1°07'23	opposition	2130 Nov 13 04:06	20° \mathbb{B} 33'43	-1°-15'-42
min. Earth dist.	2125 May 19 10:07	26° \mathbb{M} 52'35	4.37916 AU	direct	2131 Jan 10 02:15	15° \mathbb{B} 37'26	
direct	2125 Jul 19 12:05	22° \mathbb{M} 03'49			2131 Apr 24 06:12	0° \mathbb{I}	
	2125 Oct 05 05:02	0° \mathbb{J}		evening set	2131 May 16 07:09	5° \mathbb{I} 02'51	
evening set	2125 Nov 22 06:11	9° \mathbb{J} 55'11		conjunction	2131 May 29 23:58	8° \mathbb{I} 15'21	0°-35'-49
max. Earth dist.	2125 Dec 02 18:51	12° \mathbb{J} 16'37	6.32128 AU	minimum elong	2131 May 30 00:01	8° \mathbb{I} 15'23	0°35'50
				max. Earth dist.	2131 Jun 01 07:15	8° \mathbb{I} 47'46	6.05121 AU
conjunction	2125 Dec 04 22:17	12° \mathbb{J} 45'31	0°31'53	morning rise	2131 Jun 12 18:48	11° \mathbb{I} 28'35	
minimum elong	2125 Dec 04 22:19	12° \mathbb{J} 45'31	0°31'53		2131 Sep 24 10:59	0° \mathbb{D}	
morning rise	2125 Dec 17 13:15	15° \mathbb{J} 35'27		retrograde	2131 Oct 19 19:39	1° \mathbb{D} 02'38	
	2126 Mar 03 01:42	0° \mathbb{D}			2131 Nov 13 23:14	30° \mathbb{R} \mathbb{I}	
retrograde	2126 Apr 20 00:46	3° \mathbb{D} 23'14		min. Earth dist.	2131 Dec 17 00:14	26° \mathbb{I} 09'21	4.11802 AU
	2126 Jun 08 01:56	30° \mathbb{R} \mathbb{J}		opposition	2131 Dec 18 09:34	25° \mathbb{I} 57'59	0°-26'-22
opposition	2126 Jun 19 22:43	28° \mathbb{J} 30'37	0°22'10	direct	2132 Feb 15 04:37	20° \mathbb{I} 58'40	
min. Earth dist.	2126 Jun 21 09:24	28° \mathbb{J} 19'32	4.25347 AU		2132 May 05 18:07	0° \mathbb{D}	
direct	2126 Aug 20 16:03	23° \mathbb{J} 32'37		evening set	2132 Jun 20 17:58	9° \mathbb{D} 47'31	
	2126 Oct 27 14:35	0° \mathbb{D}		asc. node	2132 Jun 21 23:42	10° \mathbb{D} 04'17	
desc. node	2126 Nov 29 13:28	6° \mathbb{D} 28'12					
evening set	2126 Dec 24 01:26	11° \mathbb{D} 57'09		conjunction	2132 Jul 04 11:53	12° \mathbb{D} 54'09	0°01'14
max. Earth dist.	2127 Jan 04 01:37	14° \mathbb{D} 29'50	6.18083 AU	minimum elong	2132 Jul 04 11:52	12° \mathbb{D} 54'09	0°01'15
				behind sun begin	2132 Jul 04 03:30	12° \mathbb{D} 49'26	
conjunction	2127 Jan 05 18:14	14° \mathbb{D} 53'23	0°-3'-34	behind sun end	2132 Jul 04 20:15	12° \mathbb{D} 58'53	
minimum elong	2127 Jan 05 18:14	14° \mathbb{D} 53'23	0°03'35	max. Earth dist.	2132 Jul 06 10:14	13° \mathbb{D} 20'25	6.19135 AU
behind sun begin	2127 Jan 05 10:18	14° \mathbb{D} 48'49		morning rise	2132 Jul 18 05:33	16° \mathbb{D} 00'26	
behind sun end	2127 Jan 06 02:10	14° \mathbb{D} 57'58			2132 Sep 27 07:47	0° \mathbb{Q}	
morning rise	2127 Jan 18 10:58	17° \mathbb{D} 49'56		retrograde	2132 Nov 20 16:17	4° \mathbb{Q} 24'26	
	2127 Mar 17 08:42	0° \approx			2133 Jan 14 18:33	30° \mathbb{R} \mathbb{D}	
retrograde	2127 May 25 10:16	6° \approx 43'00		min. Earth dist.	2133 Jan 18 11:57	29° \mathbb{D} 30'03	4.26355 AU
opposition	2127 Jul 25 02:16	1° \approx 48'14	0°-33'-8	opposition	2133 Jan 19 10:25	29° \mathbb{D} 22'30	0°28'48
min. Earth dist.	2127 Jul 26 00:29	1° \approx 41'03	4.10790 AU	direct	2133 Mar 20 12:13	24° \mathbb{D} 20'51	
	2127 Aug 08 08:47	30° \mathbb{R} \mathbb{D}			2133 May 22 19:25	0° \mathbb{Q}	
direct	2127 Sep 23 10:58	26° \mathbb{D} 52'47		evening set	2133 Jul 25 07:52	12° \mathbb{Q} 31'42	
	2127 Nov 07 10:08	0° \approx			2133 Aug 05 13:51	15° \mathbb{Q}	





























































































































conjunction	2133 Aug 07 21:01	15°♏30'22	0°36'12	conjunction	2139 Jan 10 09:10	19°♎41'55	0°-8'-52
minimum elong	2133 Aug 07 20:59	15°♏30'21	0°36'12	minimum elong	2139 Jan 10 09:10	19°♎41'54	0°08'54
max. Earth dist.	2133 Aug 08 17:14	15°♏41'30	6.33076 AU	behind sun begin	2139 Jan 10 02:15	19°♎37'54	
morning rise	2133 Aug 21 08:36	18°♏27'59		behind sun end	2139 Jan 10 16:04	19°♎45'55	
	2133 Oct 18 12:07	0°♐		morning rise	2139 Jan 23 02:39	22°♎39'41	
retrograde	2133 Dec 21 17:40	5°♐53'27			2139 Feb 24 22:59	0°♐	
opposition	2134 Feb 19 18:40	0°♐55'13	1°11'58	retrograde	2139 May 30 14:10	11°♐43'22	
min. Earth dist.	2134 Feb 19 14:15	0°♐56'40	4.38628 AU	opposition	2139 Jul 30 05:17	6°♐48'11	0°-40'-49
	2134 Feb 26 18:47	30°♐♏		min. Earth dist.	2139 Jul 31 00:02	6°♐42'06	4.08725 AU
direct	2134 Apr 22 04:42	25°♏52'23		direct	2139 Sep 28 08:10	1°♐53'06	
	2134 Jun 15 11:05	0°♐			2140 Jan 05 11:02	15°♐	
evening set	2134 Aug 26 23:28	13°♐35'07		evening set	2140 Jan 31 15:09	21°♐03'10	
conjunction	2134 Sep 09 05:32	16°♐26'53	0°59'14	conjunction	2140 Feb 13 12:07	24°♐07'48	0°-43'-40
minimum elong	2134 Sep 09 05:30	16°♐26'52	0°59'13	minimum elong	2140 Feb 13 12:05	24°♐07'46	0°43'41
max. Earth dist.	2134 Sep 08 22:34	16°♐23'07	6.42741 AU	max. Earth dist.	2140 Feb 13 00:08	24°♐00'37	6.02613 AU
morning rise	2134 Sep 22 08:44	19°♐17'14		morning rise	2140 Feb 26 10:49	27°♐13'37	
	2134 Nov 15 18:29	0°♑			2140 Mar 09 04:57	0°♑	
retrograde	2135 Jan 20 19:56	6°♑08'20		retrograde	2140 Jul 06 07:20	17°♑22'14	
opposition	2135 Mar 22 06:18	1°♑13'30	1°33'30	opposition	2140 Sep 04 11:43	12°♑23'25	-1°-24'-46
min. Earth dist.	2135 Mar 22 19:30	1°♑09'13	4.45181 AU	min. Earth dist.	2140 Sep 04 09:04	12°♑24'17	3.97988 AU
	2135 Mar 31 19:27	30°♑♐		direct	2140 Nov 02 06:12	7°♑29'48	
direct	2135 May 23 14:38	26°♐10'45		evening set	2141 Mar 07 15:48	27°♑08'39	
	2135 Jul 15 06:10	0°♑			2141 Mar 19 11:07	0°♑	
evening set	2135 Sep 27 05:03	13°♑40'44		conjunction	2141 Mar 20 19:23	0°♑19'33	-1°-3'-25
max. Earth dist.	2135 Oct 08 19:27	16°♑10'56	6.45635 AU	minimum elong	2141 Mar 20 19:22	0°♑19'33	1°03'25
conjunction	2135 Oct 10 03:54	16°♑28'30	1°05'31	max. Earth dist.	2141 Mar 21 16:02	0°♑32'04	5.95358 AU
minimum elong	2135 Oct 10 03:54	16°♑28'30	1°05'31	morning rise	2141 Apr 03 02:01	3°♑32'07	
morning rise	2135 Oct 23 00:03	19°♑14'59		retrograde	2141 Aug 13 12:55	24°♑13'17	
	2135 Dec 16 16:27	0°♒		min. Earth dist.	2141 Oct 11 07:41	19°♑18'52	3.95168 AU
retrograde	2136 Feb 20 03:20	5°♒59'58		opposition	2141 Oct 12 08:15	19°♑10'35	-1°-36'-36
opposition	2136 Apr 20 20:16	1°♒07'25	1°30'00	direct	2141 Dec 09 06:12	14°♑16'22	
min. Earth dist.	2136 Apr 22 01:37	0°♒58'02	4.44351 AU		2142 Mar 28 03:06	0°♒	
	2136 Apr 29 16:36	30°♒♑		evening set	2142 Apr 14 01:09	3°♒59'02	
direct	2136 Jun 22 15:27	26°♑05'39		conjunction	2142 Apr 27 12:43	7°♒12'48	0°-58'-27
	2136 Aug 14 20:08	0°♒		minimum elong	2142 Apr 27 12:45	7°♒12'49	0°58'28
evening set	2136 Oct 26 18:51	13°♒40'05		max. Earth dist.	2142 Apr 29 12:02	7°♒41'11	5.97146 AU
	2136 Nov 01 21:06	15°♒		morning rise	2142 May 11 03:19	10°♒28'01	
max. Earth dist.	2136 Nov 06 12:56	16°♒01'20	6.41076 AU		2142 May 30 12:57	15°♒	
conjunction	2136 Nov 08 12:55	16°♒27'42	0°54'08		2142 Aug 27 23:10	0°♓	
minimum elong	2136 Nov 08 12:57	16°♒27'43	0°54'08	retrograde	2142 Sep 19 15:02	0°♓50'23	
morning rise	2136 Nov 21 04:47	19°♒14'24			2142 Oct 12 03:24	30°♒♑	
	2137 Jan 13 22:02	0°♓		min. Earth dist.	2142 Nov 16 18:57	25°♓57'15	4.01393 AU
retrograde	2137 Mar 22 11:54	6°♓21'59		opposition	2142 Nov 18 05:42	25°♓45'24	-1°-9'-56
opposition	2137 May 22 10:04	1°♓30'05	1°02'06	direct	2143 Jan 15 06:55	20°♓48'40	
min. Earth dist.	2137 May 23 22:18	1°♓18'32	4.36334 AU		2143 Apr 05 05:06	0°♓	
	2137 Jun 03 09:17	30°♒♒		evening set	2143 May 21 11:11	10°♓08'22	
direct	2137 Jul 23 21:28	26°♒30'05		conjunction	2143 Jun 04 04:35	13°♓20'09	0°-31'-1
	2137 Sep 11 13:13	0°♓		minimum elong	2143 Jun 04 04:37	13°♓20'10	0°31'03
evening set	2137 Nov 26 15:07	14°♓25'54		max. Earth dist.	2143 Jun 06 13:00	13°♓53'02	6.07183 AU
max. Earth dist.	2137 Dec 07 05:25	16°♓48'50	6.30192 AU	morning rise	2143 Jun 17 23:27	16°♓32'27	
conjunction	2137 Dec 09 07:17	17°♓16'59	0°27'21		2143 Aug 21 21:09	0°♔	
minimum elong	2137 Dec 09 07:18	17°♓17'00	0°27'21	retrograde	2143 Oct 24 12:31	5°♔55'44	
morning rise	2137 Dec 21 22:12	20°♓07'45		min. Earth dist.	2143 Dec 21 18:09	1°♔02'23	4.14056 AU
	2138 Feb 06 23:18	0°♔		opposition	2143 Dec 23 02:33	0°♔51'23	0°-18'-32
retrograde	2138 Apr 24 21:09	8°♔04'18			2143 Dec 29 10:34	30°♒♓	
opposition	2138 Jun 24 18:04	3°♔11'34	0°14'38	direct	2144 Feb 20 01:34	25°♓51'40	
min. Earth dist.	2138 Jun 26 04:14	3°♔00'39	4.23177 AU		2144 Apr 12 08:49	0°♔	
	2138 Jul 21 21:47	30°♒♓		asc. node	2144 May 02 06:40	3°♔16'08	
direct	2138 Aug 25 07:18	28°♓14'00		evening set	2144 Jun 25 15:35	14°♔34'03	
	2138 Sep 28 09:31	0°♔		conjunction	2144 Jul 09 08:56	17°♔39'30	0°06'30
desc. node	2138 Oct 08 22:56	1°♔12'06		minimum elong	2144 Jul 09 08:56	17°♔39'30	0°06'30
evening set	2138 Dec 28 16:11	16°♔44'38		behind sun begin	2144 Jul 09 01:06	17°♔35'06	
max. Earth dist.	2139 Jan 08 17:42	19°♔18'54	6.15866 AU				

behind sun end	2144 Jul 09 16:45	17° $\overline{5}$ 43'53		direct	2150 Aug 29 22:54	2° $\overline{3}$ 58'38	
max. Earth dist.	2144 Jul 11 02:37	18° $\overline{5}$ 03'00	6.21376 AU	evening set	2151 Jan 02 08:13	21° $\overline{3}$ 34'45	
morning rise	2144 Jul 23 02:10	20° $\overline{5}$ 44'32		max. Earth dist.	2151 Jan 13 14:49	24° $\overline{3}$ 12'36	6.13915 AU
	2144 Sep 05 00:04	0° $\overline{9}$					
retrograde	2144 Nov 25 01:16	8° $\overline{9}$ 58'47		conjunction	2151 Jan 15 01:40	24° $\overline{3}$ 33'01	0°-14'-10
opposition	2145 Jan 23 20:15	3° $\overline{9}$ 57'18	0°35'47	minimum elong	2151 Jan 15 01:38	24° $\overline{3}$ 33'00	0°14'11
min. Earth dist.	2145 Jan 23 00:38	4° $\overline{9}$ 03'53	4.28393 AU	behind sun begin	2151 Jan 14 21:35	24° $\overline{3}$ 30'38	
	2145 Feb 27 01:58	30° \overline{R} $\overline{5}$		behind sun end	2151 Jan 15 05:42	24° $\overline{3}$ 35'22	
direct	2145 Mar 25 03:01	28° $\overline{5}$ 55'21		morning rise	2151 Jan 27 19:33	27° $\overline{3}$ 31'49	
	2145 Apr 20 11:43	0° $\overline{9}$			2151 Feb 07 12:18	0° \approx	
	2145 Jul 20 14:07	15° $\overline{9}$			2151 May 02 02:18	15° \approx	
evening set	2145 Jul 29 22:06	17° $\overline{9}$ 01'15		retrograde	2151 Jun 04 19:49	16° \approx 44'47	
					2151 Jul 08 15:21	15° \overline{R} \approx	
conjunction	2145 Aug 12 10:32	19° $\overline{9}$ 58'52	0°40'14	opposition	2151 Aug 04 09:02	11° \approx 49'09	0°-48'-13
minimum elong	2145 Aug 12 10:30	19° $\overline{9}$ 58'51	0°40'14	min. Earth dist.	2151 Aug 05 01:37	11° \approx 43'46	4.07056 AU
max. Earth dist.	2145 Aug 13 03:43	20° $\overline{9}$ 08'18	6.34762 AU	direct	2151 Oct 03 07:51	6° \approx 54'23	
morning rise	2145 Aug 25 20:52	22° $\overline{9}$ 55'18			2151 Dec 17 03:10	15° \approx	
	2145 Sep 28 17:05	0° $\overline{9}$		evening set	2152 Feb 05 13:43	26° \approx 08'39	
retrograde	2145 Dec 25 21:54	10° $\overline{9}$ 14'32					
opposition	2146 Feb 24 00:14	5° $\overline{9}$ 16'50	1°16'20	conjunction	2152 Feb 18 11:20	29° \approx 14'08	0°-47'-39
min. Earth dist.	2146 Feb 23 22:07	5° $\overline{9}$ 17'32	4.39861 AU	minimum elong	2152 Feb 18 11:18	29° \approx 14'07	0°47'41
direct	2146 Apr 26 13:10	0° $\overline{9}$ 13'58		max. Earth dist.	2152 Feb 18 02:59	29° \approx 09'07	6.01362 AU
evening set	2146 Aug 31 08:35	17° $\overline{9}$ 54'16			2152 Feb 21 15:43	0° \overline{H}	
				morning rise	2152 Mar 02 11:06	2° \overline{H} 20'57	
conjunction	2146 Sep 13 13:28	20° $\overline{9}$ 45'20	1°01'08	retrograde	2152 Jul 11 14:32	22° \overline{H} 35'38	
minimum elong	2146 Sep 13 13:26	20° $\overline{9}$ 45'19	1°01'07	opposition	2152 Sep 09 18:37	17° \overline{H} 36'14	-1°-28'-41
max. Earth dist.	2146 Sep 13 00:55	20° $\overline{9}$ 38'32	6.43422 AU	min. Earth dist.	2152 Sep 09 11:44	17° \overline{H} 38'31	3.97305 AU
morning rise	2146 Sep 26 15:47	23° $\overline{9}$ 35'02		direct	2152 Nov 07 08:40	12° \overline{H} 42'41	
	2146 Oct 27 14:07	0° $\overline{9}$			2153 Mar 02 20:33	0° \overline{Y}	
retrograde	2147 Jan 25 01:17	10° $\overline{9}$ 24'10		evening set	2153 Mar 12 19:30	2° \overline{Y} 22'46	
opposition	2147 Mar 26 11:20	5° $\overline{9}$ 29'44	1°34'31				
min. Earth dist.	2147 Mar 27 04:05	5° $\overline{9}$ 24'19	4.45297 AU	conjunction	2153 Mar 26 00:06	5° \overline{Y} 34'10	-1°-4'-17
direct	2147 May 27 22:27	0° $\overline{9}$ 27'01		minimum elong	2153 Mar 26 00:06	5° \overline{Y} 34'10	1°04'17
evening set	2147 Oct 01 11:22	17° $\overline{9}$ 57'23		max. Earth dist.	2153 Mar 27 00:58	5° \overline{Y} 49'13	5.95285 AU
max. Earth dist.	2147 Oct 12 22:59	20° $\overline{9}$ 26'17	6.45177 AU	morning rise	2153 Apr 08 07:46	8° \overline{Y} 47'14	
				retrograde	2153 Aug 18 18:33	29° \overline{Y} 28'01	
conjunction	2147 Oct 14 09:38	20° $\overline{9}$ 45'04	1°04'57	min. Earth dist.	2153 Oct 16 11:08	24° \overline{Y} 33'40	3.95716 AU
minimum elong	2147 Oct 14 09:38	20° $\overline{9}$ 45'04	1°04'57	opposition	2153 Oct 17 13:11	24° \overline{Y} 24'52	-1°-35'-2
morning rise	2147 Oct 27 04:58	23° $\overline{9}$ 31'26		direct	2153 Dec 14 11:08	19° \overline{Y} 30'22	
	2147 Nov 27 08:27	0° $\overline{9}$			2154 Mar 09 20:01	0° $\overline{8}$	
retrograde	2148 Feb 24 09:43	10° $\overline{9}$ 18'43		evening set	2154 Apr 19 06:09	9° $\overline{8}$ 10'36	
opposition	2148 Apr 25 04:03	5° $\overline{9}$ 26'20	1°27'30				
min. Earth dist.	2148 Apr 26 09:59	5° $\overline{9}$ 16'46	4.43371 AU	conjunction	2154 May 02 18:49	12° $\overline{8}$ 24'20	0°-55'-46
direct	2148 Jun 26 21:38	0° $\overline{9}$ 24'47		minimum elong	2154 May 02 18:52	12° $\overline{8}$ 24'22	0°55'46
	2148 Oct 16 23:46	15° $\overline{9}$		max. Earth dist.	2154 May 04 21:34	12° $\overline{8}$ 54'40	5.98263 AU
evening set	2148 Oct 31 01:37	18° $\overline{9}$ 02'06			2154 May 13 15:49	15° $\overline{8}$	
max. Earth dist.	2148 Nov 10 18:44	20° $\overline{9}$ 23'20	6.39651 AU	morning rise	2154 May 16 10:11	15° $\overline{8}$ 39'22	
					2154 Jul 23 06:24	0° \overline{II}	
conjunction	2148 Nov 12 19:15	20° $\overline{9}$ 50'06	0°51'12	retrograde	2154 Sep 24 14:49	5° \overline{II} 54'51	
minimum elong	2148 Nov 12 19:17	20° $\overline{9}$ 50'07	0°51'11	min. Earth dist.	2154 Nov 21 17:27	1° \overline{II} 01'45	4.02954 AU
morning rise	2148 Nov 25 10:51	23° $\overline{9}$ 37'16		opposition	2154 Nov 23 04:23	0° \overline{II} 49'51	-1°-3'-46
	2148 Dec 25 12:56	0° $\overline{9}$			2154 Nov 29 07:26	30° \overline{R} $\overline{8}$	
retrograde	2149 Mar 27 02:29	10° $\overline{9}$ 50'56		direct	2155 Jan 20 07:27	25° $\overline{8}$ 52'45	
opposition	2149 May 26 23:47	5° $\overline{9}$ 59'03	0°56'23		2155 Mar 12 13:29	0° \overline{II}	
min. Earth dist.	2149 May 28 12:55	5° $\overline{9}$ 47'13	4.34545 AU	evening set	2155 May 26 13:18	15° \overline{II} 07'36	
direct	2149 Jul 28 09:27	0° $\overline{9}$ 59'24					
evening set	2149 Dec 01 01:22	18° $\overline{9}$ 59'55		conjunction	2155 Jun 09 06:53	18° \overline{II} 18'40	0°-26'-5
max. Earth dist.	2149 Dec 11 15:32	21° $\overline{9}$ 23'30	6.28190 AU	minimum elong	2155 Jun 09 06:55	18° \overline{II} 18'41	0°26'06
				max. Earth dist.	2155 Jun 11 12:51	18° \overline{II} 49'58	6.09028 AU
conjunction	2149 Dec 13 17:28	21° $\overline{9}$ 51'49	0°22'36	morning rise	2155 Jun 23 02:03	21° \overline{II} 30'11	
minimum elong	2149 Dec 13 17:29	21° $\overline{9}$ 51'49	0°22'36		2155 Jul 31 19:14	0° $\overline{5}$	
morning rise	2149 Dec 26 08:41	24° $\overline{9}$ 43'29		retrograde	2155 Oct 29 02:54	10° $\overline{5}$ 44'03	
	2150 Jan 19 07:28	0° $\overline{5}$		min. Earth dist.	2155 Dec 26 10:44	5° $\overline{5}$ 50'33	4.15995 AU
retrograde	2150 Apr 29 18:05	12° $\overline{5}$ 48'52		opposition	2155 Dec 27 17:51	5° $\overline{5}$ 39'59	0°-10'-43
opposition	2150 Jun 29 14:53	7° $\overline{5}$ 55'51	0°06'54	direct	2156 Feb 24 20:42	0° $\overline{5}$ 39'54	
min. Earth dist.	2150 Jun 30 22:23	7° $\overline{5}$ 45'45	4.21105 AU	asc. node	2156 Mar 12 16:52	1° $\overline{5}$ 07'47	
desc. node	2150 Aug 18 06:46	3° $\overline{5}$ 11'33		evening set	2156 Jun 30 11:54	19° $\overline{5}$ 17'16	

conjunction	2156 Jul 14 04:58	22° \mathfrak{G} 21'45	0°11'39	min. Earth dist.	2162 Jul 05 18:17	12° \mathfrak{Z} 30'35	4.19523 AU
minimum elong	2156 Jul 14 04:56	22° \mathfrak{G} 21'44	0°11'39	direct	2162 Sep 03 16:57	7° \mathfrak{Z} 43'33	
behind sun begin	2156 Jul 13 23:09	22° \mathfrak{G} 18'29		evening set	2163 Jan 06 23:11	26° \mathfrak{Z} 23'17	
behind sun end	2156 Jul 14 10:44	22° \mathfrak{G} 24'58		max. Earth dist.	2163 Jan 18 08:37	29° \mathfrak{Z} 03'19	6.12462 AU
max. Earth dist.	2156 Jul 15 20:08	22° \mathfrak{G} 43'45	6.23266 AU				
morning rise	2156 Jul 27 21:19	25° \mathfrak{G} 25'36		conjunction	2163 Jan 19 16:54	29° \mathfrak{Z} 22'16	0°-19'-16
	2156 Aug 17 20:13	0° \mathfrak{Q}		minimum elong	2163 Jan 19 16:53	29° \mathfrak{Z} 22'15	0°19'16
retrograde	2156 Nov 29 10:45	13° \mathfrak{Q} 31'40			2163 Jan 22 09:10	0° \approx	
opposition	2157 Jan 28 05:40	8° \mathfrak{Q} 30'45	0°42'30	morning rise	2163 Feb 01 11:24	2° \approx 21'56	
min. Earth dist.	2157 Jan 27 12:35	8° \mathfrak{Q} 36'28	4.30073 AU		2163 Apr 02 01:50	15° \approx	
direct	2157 Mar 29 16:39	3° \mathfrak{Q} 28'39		retrograde	2163 Jun 09 20:24	21° \approx 42'16	
	2157 Jul 03 13:29	15° \mathfrak{Q}		opposition	2163 Aug 09 10:26	16° \approx 46'08	0°-55'-3
evening set	2157 Aug 03 12:43	21° \mathfrak{Q} 30'57		min. Earth dist.	2163 Aug 09 23:10	16° \approx 41'59	4.05875 AU
					2163 Aug 23 08:00	15° \mathfrak{R} \approx	
conjunction	2157 Aug 17 00:05	24° \mathfrak{Q} 27'37	0°44'03	direct	2163 Oct 08 04:22	11° \approx 51'35	
minimum elong	2157 Aug 17 00:03	24° \mathfrak{Q} 27'36	0°44'03		2163 Nov 21 22:45	15° \approx	
max. Earth dist.	2157 Aug 17 12:00	24° \mathfrak{Q} 34'08	6.36094 AU		2164 Feb 05 14:48	0° \mathfrak{H}	
morning rise	2157 Aug 30 09:30	27° \mathfrak{Q} 23'06		evening set	2164 Feb 10 09:56	1° \mathfrak{H} 08'28	
	2157 Sep 11 13:14	0° \mathfrak{P}					
retrograde	2157 Dec 30 03:43	14° \mathfrak{P} 37'23		conjunction	2164 Feb 23 08:14	4° \mathfrak{H} 14'36	0°-51'-9
opposition	2158 Feb 28 06:37	9° \mathfrak{P} 40'11	1°20'20	minimum elong	2164 Feb 23 08:12	4° \mathfrak{H} 14'35	0°51'10
min. Earth dist.	2158 Feb 28 07:26	9° \mathfrak{P} 39'55	4.40784 AU	max. Earth dist.	2164 Feb 23 04:20	4° \mathfrak{H} 12'16	6.00551 AU
direct	2158 Apr 30 22:38	4° \mathfrak{P} 37'16		morning rise	2164 Mar 07 08:47	7° \mathfrak{H} 22'08	
evening set	2158 Sep 04 18:28	22° \mathfrak{P} 16'08		retrograde	2164 Jul 16 18:51	27° \mathfrak{H} 41'06	
				opposition	2164 Sep 14 21:35	22° \mathfrak{H} 41'07	-1°-31'-44
conjunction	2158 Sep 17 22:32	25° \mathfrak{P} 06'40	1°02'43	min. Earth dist.	2164 Sep 14 12:41	22° \mathfrak{H} 44'05	3.96954 AU
minimum elong	2158 Sep 17 22:30	25° \mathfrak{P} 06'40	1°02'43	direct	2164 Nov 12 09:53	17° \mathfrak{H} 47'28	
max. Earth dist.	2158 Sep 17 07:51	24° \mathfrak{P} 58'44	6.43871 AU		2165 Feb 13 16:51	0° \mathfrak{Y}	
morning rise	2158 Sep 30 23:38	27° \mathfrak{P} 55'46		evening set	2165 Mar 17 19:31	7° \mathfrak{Y} 27'48	
	2158 Oct 10 16:40	0° \mathfrak{A}					
retrograde	2159 Jan 29 06:34	14° \mathfrak{A} 43'45		conjunction	2165 Mar 31 01:14	10° \mathfrak{Y} 39'37	-1°-4'-36
opposition	2159 Mar 30 17:55	9° \mathfrak{A} 49'45	1°35'03	minimum elong	2165 Mar 31 01:14	10° \mathfrak{Y} 39'37	1°04'38
min. Earth dist.	2159 Mar 31 12:05	9° \mathfrak{A} 43'53	4.45273 AU	max. Earth dist.	2165 Apr 01 06:23	10° \mathfrak{Y} 57'15	5.95423 AU
direct	2159 Jun 01 05:46	4° \mathfrak{A} 47'14		morning rise	2165 Apr 13 09:55	13° \mathfrak{Y} 53'04	
evening set	2159 Oct 05 19:09	22° \mathfrak{A} 18'16			2165 Jun 29 22:20	0° \mathfrak{B}	
max. Earth dist.	2159 Oct 17 02:34	24° \mathfrak{A} 45'14	6.44683 AU	retrograde	2165 Aug 23 20:04	4° \mathfrak{B} 32'25	
					2165 Oct 18 17:32	30° \mathfrak{R} \mathfrak{Y}	
conjunction	2159 Oct 18 16:28	25° \mathfrak{A} 05'49	1°04'02	min. Earth dist.	2165 Oct 21 10:07	29° \mathfrak{Y} 38'12	3.96349 AU
minimum elong	2159 Oct 18 16:29	25° \mathfrak{A} 05'50	1°04'01	opposition	2165 Oct 22 13:31	29° \mathfrak{Y} 28'56	-1°-32'-47
morning rise	2159 Oct 31 11:15	27° \mathfrak{A} 52'10		direct	2165 Dec 19 10:39	24° \mathfrak{Y} 34'10	
	2159 Nov 10 09:48	0° \mathfrak{M}			2166 Feb 16 08:52	0° \mathfrak{B}	
retrograde	2160 Feb 28 20:12	14° \mathfrak{M} 41'55		evening set	2166 Apr 24 07:07	14° \mathfrak{B} 11'57	
opposition	2160 Apr 29 13:51	9° \mathfrak{M} 49'44	1°24'29		2166 Apr 27 16:06	15° \mathfrak{B}	
min. Earth dist.	2160 Apr 30 21:42	9° \mathfrak{M} 39'34	4.42461 AU				
direct	2160 Jul 01 07:47	4° \mathfrak{M} 48'28		conjunction	2166 May 07 20:32	17° \mathfrak{B} 25'35	0°-52'-46
	2160 Sep 29 16:14	15° \mathfrak{M}		minimum elong	2166 May 07 20:35	17° \mathfrak{B} 25'36	0°52'47
evening set	2160 Nov 04 09:37	22° \mathfrak{M} 28'14		max. Earth dist.	2166 May 09 22:56	17° \mathfrak{B} 55'35	5.99310 AU
max. Earth dist.	2160 Nov 15 02:17	24° \mathfrak{M} 49'39	6.38413 AU	morning rise	2166 May 21 12:52	20° \mathfrak{B} 40'30	
					2166 Jul 02 02:16	0° \mathfrak{I}	
conjunction	2160 Nov 17 02:59	25° \mathfrak{M} 16'35	0°47'57	retrograde	2166 Sep 29 08:52	10° \mathfrak{I} 49'37	
minimum elong	2160 Nov 17 03:01	25° \mathfrak{M} 16'36	0°47'57	min. Earth dist.	2166 Nov 26 11:54	5° \mathfrak{I} 56'33	4.04297 AU
morning rise	2160 Nov 29 18:14	28° \mathfrak{M} 04'08		opposition	2166 Nov 27 22:57	5° \mathfrak{I} 44'36	0°-57'-26
	2160 Dec 08 14:15	0° \mathfrak{J}		direct	2167 Jan 25 04:09	0° \mathfrak{I} 47'03	
retrograde	2161 Mar 31 15:59	15° \mathfrak{J} 23'14		evening set	2167 May 31 11:51	19° \mathfrak{I} 58'06	
opposition	2161 May 31 14:25	10° \mathfrak{J} 31'16	0°50'20				
min. Earth dist.	2161 Jun 02 02:03	10° \mathfrak{J} 19'55	4.33075 AU	conjunction	2167 Jun 14 05:54	23° \mathfrak{I} 08'37	0°-21'-10
direct	2161 Aug 01 20:14	5° \mathfrak{J} 32'00		minimum elong	2167 Jun 14 05:55	23° \mathfrak{I} 08'38	0°21'11
evening set	2161 Dec 05 12:02	23° \mathfrak{J} 36'03		max. Earth dist.	2167 Jun 16 10:59	23° \mathfrak{I} 39'19	6.10577 AU
max. Earth dist.	2161 Dec 16 04:38	26° \mathfrak{J} 01'33	6.26616 AU	morning rise	2167 Jun 28 00:58	26° \mathfrak{I} 19'25	
					2167 Jul 14 07:36	0° \mathfrak{G}	
conjunction	2161 Dec 18 04:04	26° \mathfrak{J} 28'33	0°17'45	retrograde	2167 Nov 02 16:37	15° \mathfrak{G} 25'11	
minimum elong	2161 Dec 18 04:05	26° \mathfrak{J} 28'33	0°17'45	min. Earth dist.	2167 Dec 31 01:34	10° \mathfrak{G} 31'16	4.17585 AU
morning rise	2161 Dec 30 19:23	29° \mathfrak{J} 20'55		opposition	2168 Jan 01 06:25	10° \mathfrak{G} 21'30	0°-3'-8
	2162 Jan 02 16:34	0° \mathfrak{Z}		asc. node	2168 Jan 23 13:47	7° \mathfrak{G} 31'31	
retrograde	2162 May 04 16:00	17° \mathfrak{Z} 33'42		direct	2168 Feb 29 13:22	5° \mathfrak{G} 21'05	
desc. node	2162 Jun 28 18:23	13° \mathfrak{Z} 24'14		evening set	2168 Jul 05 06:06	23° \mathfrak{G} 54'43	
opposition	2162 Jul 04 11:43	12° \mathfrak{Z} 40'23	0°00'-47				

conjunction	2168 Jul 18 22:39	26°☿58'20	0°16'34	morning rise	2174 Jan 04 05:00	3°♄55'04	
minimum elong	2168 Jul 18 22:38	26°☿58'20	0°16'34	retrograde	2174 May 09 11:13	22°♄16'16	
max. Earth dist.	2168 Jul 20 10:28	27°☿18'23	6.24780 AU	desc. node	2174 May 09 03:05	22°♄16'15	
morning rise	2168 Aug 01 14:28	0°♌01'17		opposition	2174 Jul 09 07:40	17°♄22'39	0°-8'-32
	2168 Aug 01 12:09	0°♌		min. Earth dist.	2174 Jul 10 11:50	17°♄13'37	4.17634 AU
	2168 Oct 20 08:15	15°♌		direct	2174 Sep 08 07:27	12°♄26'11	
retrograde	2168 Dec 03 17:19	18°♌00'30			2175 Jan 06 12:10	0°♄	
	2169 Jan 17 03:59	15°♌♌		evening set	2175 Jan 11 14:15	1°♄11'04	
opposition	2169 Feb 01 13:44	13°♌00'03	0°48'47	max. Earth dist.	2175 Jan 23 03:08	3°♄53'47	6.10623 AU
min. Earth dist.	2169 Jan 31 22:20	13°♌05'11	4.31412 AU				
direct	2169 Apr 03 03:43	7°♌57'46		conjunction	2175 Jan 24 08:21	4°♄11'00	0°-24'-17
	2169 Jun 14 07:32	15°♌		minimum elong	2175 Jan 24 08:19	4°♄11'00	0°24'18
evening set	2169 Aug 08 01:48	25°♌57'20		morning rise	2175 Feb 06 03:30	7°♄11'45	
					2175 Mar 12 19:10	15°♄	
conjunction	2169 Aug 21 12:20	28°♌53'12	0°47'30	retrograde	2175 Jun 15 01:01	26°♄41'19	
minimum elong	2169 Aug 21 12:17	28°♌53'11	0°47'30	opposition	2175 Aug 14 12:40	21°♄44'43	-1°-1'-40
max. Earth dist.	2169 Aug 21 21:25	28°♌58'10	6.37177 AU	min. Earth dist.	2175 Aug 14 23:23	21°♄41'13	4.04236 AU
	2169 Aug 26 14:34	0°♍		direct	2175 Oct 13 03:02	16°♄50'23	
morning rise	2169 Sep 03 20:35	1°♍47'47			2176 Jan 19 16:37	0°♋	
retrograde	2170 Jan 03 09:21	18°♍57'53		evening set	2176 Feb 15 07:44	6°♋11'55	
opposition	2170 Mar 04 12:42	14°♍01'11	1°23'46				
min. Earth dist.	2170 Mar 04 15:50	14°♍00'09	4.41549 AU	conjunction	2176 Feb 28 07:00	9°♋19'02	0°-54'-21
direct	2170 May 05 08:17	8°♍58'18		minimum elong	2176 Feb 28 06:58	9°♋19'01	0°54'22
evening set	2170 Sep 09 03:33	26°♍35'45		max. Earth dist.	2176 Feb 28 07:46	9°♋19'30	5.99268 AU
max. Earth dist.	2170 Sep 21 11:47	29°♍15'36	6.44248 AU	morning rise	2176 Mar 12 08:34	12°♋27'36	
					2176 Jun 08 18:41	0°♎	
conjunction	2170 Sep 22 06:32	29°♍25'44	1°03'55	retrograde	2176 Jul 22 02:09	2°♎52'44	
minimum elong	2170 Sep 22 06:31	29°♍25'43	1°03'55		2176 Sep 03 14:43	30°♎♋	
	2170 Sep 24 21:53	0°♏		opposition	2176 Sep 20 03:00	27°♋52'17	-1°-34'-14
morning rise	2170 Oct 05 06:47	2°♏14'19		min. Earth dist.	2176 Sep 19 15:12	27°♋56'13	3.96192 AU
retrograde	2171 Feb 02 12:11	19°♏01'12		direct	2176 Nov 17 10:49	22°♋58'40	
opposition	2171 Apr 04 00:12	14°♏07'27	1°35'01		2177 Jan 24 08:35	0°♎	
min. Earth dist.	2171 Apr 04 20:26	14°♏00'55	4.45255 AU	evening set	2177 Mar 22 23:12	12°♎41'02	
direct	2171 Jun 05 13:50	9°♏05'00					
evening set	2171 Oct 10 01:40	26°♏36'16		conjunction	2177 Apr 05 05:54	15°♎53'26	-1°-4'-28
max. Earth dist.	2171 Oct 21 08:03	29°♏02'49	6.44256 AU	minimum elong	2177 Apr 05 05:55	15°♎53'27	1°04'28
				max. Earth dist.	2177 Apr 06 13:24	16°♎12'29	5.95230 AU
conjunction	2171 Oct 22 22:26	29°♏23'42	1°02'45	morning rise	2177 Apr 18 15:54	19°♎07'32	
minimum elong	2171 Oct 22 22:27	29°♏23'43	1°02'44		2177 Jun 05 23:55	0°♏	
	2171 Oct 25 17:07	0°♐		retrograde	2177 Aug 29 00:02	9°♏46'35	
morning rise	2171 Nov 04 16:22	2°♐09'56		min. Earth dist.	2177 Oct 26 11:32	4°♏52'49	3.96761 AU
	2172 Jan 11 10:41	15°♐		opposition	2177 Oct 27 17:13	4°♏42'45	-1°-29'-46
retrograde	2172 Mar 04 03:11	19°♐01'49			2177 Dec 13 17:49	30°♎♎	
	2172 Apr 27 08:15	15°♎♐		direct	2177 Dec 24 13:59	29°♎47'41	
opposition	2172 May 03 22:41	14°♐09'44	1°20'59		2178 Jan 04 10:48	0°♏	
min. Earth dist.	2172 May 05 06:46	13°♐59'30	4.41629 AU		2178 Apr 10 15:09	15°♏	
direct	2172 Jul 05 15:11	9°♐08'43		evening set	2178 Apr 29 12:36	19°♏23'59	
	2172 Sep 09 16:57	15°♐					
evening set	2172 Nov 08 16:09	26°♐50'27		conjunction	2178 May 13 03:07	22°♏37'37	0°-49'-15
max. Earth dist.	2172 Nov 19 07:08	29°♐11'25	6.37208 AU	minimum elong	2178 May 13 03:10	22°♏37'39	0°49'16
				max. Earth dist.	2178 May 15 08:09	23°♏09'07	6.00304 AU
conjunction	2172 Nov 21 08:59	29°♐39'06	0°44'26	morning rise	2178 May 26 20:04	25°♏52'23	
minimum elong	2172 Nov 21 09:01	29°♐39'07	0°44'26		2178 Jun 13 15:30	0°♑	
	2172 Nov 22 22:39	0°♑		retrograde	2178 Oct 04 09:00	15°♑54'57	
morning rise	2172 Dec 04 00:09	2°♑27'04		min. Earth dist.	2178 Dec 01 10:56	11°♑01'44	4.05758 AU
retrograde	2173 Apr 05 06:51	19°♑51'45		opposition	2178 Dec 02 21:21	10°♑49'59	0°-50'-26
opposition	2173 Jun 05 04:19	14°♑59'41	0°43'59	direct	2179 Jan 30 05:28	5°♑52'05	
min. Earth dist.	2173 Jun 06 16:42	14°♑48'05	4.31522 AU	evening set	2179 Jun 05 14:37	24°♑58'49	
direct	2173 Aug 06 08:41	10°♑00'41					
evening set	2173 Dec 09 21:19	28°♑08'38		conjunction	2179 Jun 19 08:48	28°♑08'37	0°-15'-54
	2173 Dec 18 01:10	0°♒		minimum elong	2179 Jun 19 08:49	28°♑08'37	0°15'55
max. Earth dist.	2173 Dec 20 15:06	0°♒35'22	6.24837 AU	max. Earth dist.	2179 Jun 21 13:19	28°♑38'50	6.12395 AU
					2179 Jun 27 10:35	0°♒	
conjunction	2173 Dec 22 13:29	1°♒01'52	0°12'48	morning rise	2179 Jul 03 03:52	1°♒18'33	
minimum elong	2173 Dec 22 13:30	1°♒01'52	0°12'48	retrograde	2179 Nov 07 06:08	20°♒14'51	
behind sun begin	2173 Dec 22 08:25	0°♒58'59		asc. node	2179 Dec 03 08:18	19°♒08'00	
behind sun end	2173 Dec 22 18:35	1°♒04'46		opposition	2180 Jan 05 21:55	15°♒11'31	0°04'42

min. Earth dist.	2180 Jan 04 17:13	15° $\overline{5}$ 21'13	4.19607 AU	conjunction	2185 Dec 26 20:37	5° $\overline{3}$ 29'37	0°07'54
direct	2180 Mar 05 08:01	10° $\overline{5}$ 10'49		minimum elong	2185 Dec 26 20:38	5° $\overline{3}$ 29'38	0°07'55
evening set	2180 Jul 10 02:42	28° $\overline{5}$ 38'57		behind sun begin	2185 Dec 26 13:28	5° $\overline{3}$ 25'32	
	2180 Jul 16 04:41	0° Ω		behind sun end	2185 Dec 27 03:48	5° $\overline{3}$ 33'43	
				morning rise	2186 Jan 08 12:36	8° $\overline{3}$ 23'53	
conjunction	2180 Jul 23 18:32	1° Ω 41'22	0°21'31	desc. node	2186 Mar 20 21:45	22° $\overline{3}$ 35'59	
minimum elong	2180 Jul 23 18:31	1° Ω 41'21	0°21'32	retrograde	2186 May 14 07:55	26° $\overline{3}$ 55'07	
max. Earth dist.	2180 Jul 25 03:17	1° Ω 59'37	6.26870 AU	opposition	2186 Jul 14 02:17	22° $\overline{3}$ 01'10	0°-16'-5
morning rise	2180 Aug 06 09:24	4° Ω 43'00		min. Earth dist.	2186 Jul 15 05:45	21° $\overline{3}$ 52'19	4.15273 AU
	2180 Sep 25 11:02	15° Ω		direct	2186 Sep 12 22:24	17° $\overline{3}$ 04'54	
retrograde	2180 Dec 08 02:14	22° Ω 33'18			2186 Dec 21 03:23	0° \approx	
opposition	2181 Feb 05 23:12	17° Ω 33'20	0°54'51	evening set	2187 Jan 16 04:26	5° \approx 56'50	
min. Earth dist.	2181 Feb 05 10:31	17° Ω 37'34	4.33405 AU				
	2181 Feb 26 03:48	15° \mathcal{R} Ω		conjunction	2187 Jan 28 23:17	8° \approx 58'04	0°-29'-4
direct	2181 Apr 07 19:09	12° Ω 30'55		minimum elong	2187 Jan 28 23:15	8° \approx 58'03	0°29'05
	2181 May 18 20:16	15° Ω		max. Earth dist.	2187 Jan 27 21:25	8° \approx 42'45	6.08263 AU
	2181 Aug 10 16:20	0° \mathfrak{M}		morning rise	2187 Feb 10 19:11	12° \approx 00'11	
evening set	2181 Aug 12 15:09	0° \mathfrak{M} 25'17			2187 Feb 23 15:45	15° \approx	
					2187 May 18 06:19	0° \mathfrak{H}	
conjunction	2181 Aug 26 00:36	3° \mathfrak{M} 20'00	0°50'43	retrograde	2187 Jun 20 05:46	1° \mathfrak{H} 41'00	
minimum elong	2181 Aug 26 00:34	3° \mathfrak{M} 19'59	0°50'43		2187 Jul 23 06:02	30° \mathcal{R} \approx	
max. Earth dist.	2181 Aug 26 06:23	3° \mathfrak{M} 23'09	6.38914 AU	opposition	2187 Aug 19 15:04	26° \approx 43'56	-1°-7'-48
morning rise	2181 Sep 08 07:39	6° \mathfrak{M} 13'23		min. Earth dist.	2187 Aug 19 22:57	26° \approx 41'21	4.02112 AU
retrograde	2182 Jan 07 11:36	23° \mathfrak{M} 17'11		direct	2187 Oct 17 23:18	21° \approx 49'49	
opposition	2182 Mar 08 17:52	18° \mathfrak{M} 20'51	1°26'42		2187 Dec 31 14:10	0° \mathfrak{H}	
min. Earth dist.	2182 Mar 08 22:46	18° \mathfrak{M} 19'15	4.42933 AU	evening set	2188 Feb 20 07:12	11° \mathfrak{H} 18'01	
direct	2182 May 09 16:47	13° \mathfrak{M} 17'55					
	2182 Sep 09 09:28	0° $\underline{\Delta}$		conjunction	2188 Mar 04 07:22	14° \mathfrak{H} 26'21	0°-57'-7
evening set	2182 Sep 13 10:36	0° $\underline{\Delta}$ 51'52		minimum elong	2188 Mar 04 07:20	14° \mathfrak{H} 26'20	0°57'08
				max. Earth dist.	2188 Mar 04 11:31	14° \mathfrak{H} 28'52	5.97569 AU
conjunction	2182 Sep 26 12:34	3° $\underline{\Delta}$ 41'03	1°04'45	morning rise	2188 Mar 17 10:17	17° \mathfrak{H} 36'16	
minimum elong	2182 Sep 26 12:33	3° $\underline{\Delta}$ 41'03	1°04'46		2188 May 12 12:04	0° \mathcal{Y}	
max. Earth dist.	2182 Sep 25 15:17	3° $\underline{\Delta}$ 29'33	6.45167 AU	retrograde	2188 Jul 27 10:09	8° \mathcal{Y} 08'56	
morning rise	2182 Oct 09 11:39	6° $\underline{\Delta}$ 28'50		opposition	2188 Sep 25 09:56	3° \mathcal{Y} 07'54	-1°-35'-57
retrograde	2183 Feb 06 14:19	23° $\underline{\Delta}$ 13'08		min. Earth dist.	2188 Sep 24 18:27	3° \mathcal{Y} 13'05	3.95122 AU
opposition	2183 Apr 08 04:14	18° $\underline{\Delta}$ 19'41	1°34'28		2188 Oct 20 21:36	30° \mathcal{R} \mathfrak{H}	
min. Earth dist.	2183 Apr 09 02:47	18° $\underline{\Delta}$ 12'25	4.45646 AU	direct	2188 Nov 22 14:12	28° \mathfrak{H} 14'12	
direct	2183 Jun 09 20:18	13° $\underline{\Delta}$ 17'21			2188 Dec 25 01:53	0° \mathcal{Y}	
	2183 Oct 10 12:48	0° \mathfrak{M}		evening set	2189 Mar 28 05:36	17° \mathcal{Y} 59'44	
evening set	2183 Oct 14 05:02	0° \mathfrak{M} 47'29					
max. Earth dist.	2183 Oct 25 06:28	3° \mathfrak{M} 11'34	6.44060 AU	conjunction	2189 Apr 10 13:46	21° \mathcal{Y} 12'57	-1°-3'-44
				minimum elong	2189 Apr 10 13:47	21° \mathcal{Y} 12'57	1°03'44
conjunction	2183 Oct 27 00:56	3° \mathfrak{M} 34'41	1°01'09	max. Earth dist.	2189 Apr 12 03:10	21° \mathcal{Y} 35'33	5.94906 AU
minimum elong	2183 Oct 27 00:57	3° \mathfrak{M} 34'42	1°01'09	morning rise	2189 Apr 24 00:53	24° \mathcal{Y} 27'44	
morning rise	2183 Nov 08 18:24	6° \mathfrak{M} 20'47			2189 May 17 15:46	0° \mathcal{B}	
	2183 Dec 21 03:03	15° \mathfrak{M}			2189 Aug 26 09:28	15° \mathcal{B}	
retrograde	2184 Mar 08 08:45	23° \mathfrak{M} 14'25		retrograde	2189 Sep 03 08:38	15° \mathcal{B} 06'19	
opposition	2184 May 08 04:37	18° \mathfrak{M} 22'21	1°17'08		2189 Sep 11 06:18	15° \mathcal{R} \mathcal{B}	
min. Earth dist.	2184 May 09 14:43	18° \mathfrak{M} 11'28	4.40842 AU	opposition	2189 Nov 01 23:19	10° \mathcal{B} 02'07	-1°-25'-54
	2184 Jun 06 06:54	15° \mathcal{R} \mathfrak{M}		min. Earth dist.	2189 Oct 31 16:20	10° \mathcal{B} 12'38	3.97214 AU
direct	2184 Jul 09 21:29	13° \mathfrak{M} 21'26		direct	2189 Dec 29 20:36	5° \mathcal{B} 06'43	
	2184 Aug 12 12:58	15° \mathfrak{M}			2190 Mar 22 14:26	15° \mathcal{B}	
	2184 Nov 07 20:44	0° \mathfrak{Z}		evening set	2190 May 04 20:48	24° \mathcal{B} 41'00	
evening set	2184 Nov 12 19:20	1° \mathfrak{Z} 05'09					
max. Earth dist.	2184 Nov 23 10:01	3° \mathfrak{Z} 26'21	6.35882 AU	conjunction	2190 May 18 12:10	27° \mathcal{B} 54'31	0°-45'-15
				minimum elong	2190 May 18 12:13	27° \mathcal{B} 54'32	0°45'16
conjunction	2184 Nov 25 12:04	3° \mathfrak{Z} 54'14	0°40'47	max. Earth dist.	2190 May 20 19:28	28° \mathcal{B} 27'14	6.01470 AU
minimum elong	2184 Nov 25 12:06	3° \mathfrak{Z} 54'15	0°40'48		2190 May 27 08:31	0° \mathfrak{H}	
morning rise	2184 Dec 08 02:56	6° \mathfrak{Z} 42'39		morning rise	2190 Jun 01 05:57	1° \mathfrak{H} 09'03	
retrograde	2185 Apr 09 16:29	24° \mathfrak{Z} 13'29		retrograde	2190 Oct 09 07:41	21° \mathfrak{H} 03'42	
opposition	2185 Jun 09 15:07	19° \mathfrak{Z} 21'16	0°37'33	min. Earth dist.	2190 Dec 06 09:31	16° \mathfrak{H} 10'54	4.07480 AU
min. Earth dist.	2185 Jun 11 03:24	19° \mathfrak{Z} 09'43	4.29722 AU	opposition	2190 Dec 07 21:12	15° \mathfrak{H} 58'44	0°-42'-56
direct	2185 Aug 10 15:57	14° \mathfrak{Z} 22'32		direct	2191 Feb 04 07:09	11° \mathfrak{H} 00'23	
	2185 Dec 02 16:13	0° $\overline{3}$		evening set	2191 Jun 10 18:54	0° $\overline{3}$ 01'39	
evening set	2185 Dec 14 04:26	2° $\overline{3}$ 35'29			2191 Jun 10 16:00	0° $\overline{3}$	
max. Earth dist.	2185 Dec 24 22:14	5° $\overline{3}$ 02'59	6.22692 AU				
				conjunction	2191 Jun 24 13:02	3° $\overline{3}$ 10'29	0°-10'-28

minimum elong	2191 Jun 24 13:03	3°  10'30	0°10'29			2197 Nov 15 09:50	0° 		
behind sun begin	2191 Jun 24 06:35	3°  06'49		evening set		2197 Dec 18 17:07	7°  17'59		
behind sun end	2191 Jun 24 19:30	3°  14'11		max. Earth dist.		2197 Dec 29 14:02	9°  47'58	6.20471 AU	
max. Earth dist.	2191 Jun 26 15:26	3°  39'21	6.14493 AU						
morning rise	2191 Jul 08 07:51	6°  19'20		conjunction		2197 Dec 31 09:41	10°  13'10	0°02'40	
asc. node	2191 Oct 12 01:13	23°  34'11		minimum elong		2197 Dec 31 09:41	10°  13'09	0°02'41	
retrograde	2191 Nov 11 21:59	25°  05'10		behind sun begin		2197 Dec 31 01:43	10°  08'35		
min. Earth dist.	2192 Jan 09 11:49	20°  11'02	4.21824 AU	behind sun end		2197 Dec 31 17:39	10°  17'44		
opposition	2192 Jan 10 14:05	20°  02'10	0°12'35	morning rise		2198 Jan 13 01:55	13°  08'30		
direct	2192 Mar 10 06:02	15°  01'07		desc. node		2198 Jan 28 05:26	16°  34'26		
	2192 Jun 29 10:38	0°  ♃				2198 Apr 14 17:38	0°  ♁		
evening set	2192 Jul 14 23:40	3°  ♂23'12		retrograde		2198 May 19 09:58	1°  ♁50'02		
						2198 Jun 23 07:06	30°  ♂		
conjunction	2192 Jul 28 14:53	6°  ♂24'25	0°26'24	opposition		2198 Jul 19 03:08	26°  ♂55'49	0°-24'00	
minimum elong	2192 Jul 28 14:52	6°  ♂24'24	0°26'24	min. Earth dist.		2198 Jul 20 04:24	26°  ♂47'40	4.13070 AU	
max. Earth dist.	2192 Jul 29 21:20	6°  ♂41'18	6.29009 AU	direct		2198 Sep 17 17:44	21°  ♂59'58		
morning rise	2192 Aug 11 04:41	9°  ♂24'42				2198 Dec 01 19:13	0°  ♁		
	2192 Sep 06 06:58	15°  ♂		evening set		2199 Jan 21 00:45	10°  ♁58'12		
retrograde	2192 Dec 12 09:29	27°  ♂06'15							
opposition	2193 Feb 10 09:01	22°  ♂06'50	1°00'40	conjunction		2199 Feb 02 20:02	14°  ♁00'32	0°-33'-54	
min. Earth dist.	2193 Feb 09 21:51	22°  ♂10'32	4.35293 AU	minimum elong		2199 Feb 02 20:01	14°  ♁00'31	0°33'56	
direct	2193 Apr 12 08:39	17°  ♂04'17		max. Earth dist.		2199 Feb 01 20:59	13°  ♁46'49	6.06282 AU	
	2193 Jul 24 23:05	0°  ♄				2199 Feb 07 00:00	15°  ♁		
evening set	2193 Aug 17 04:55	4°  ♄54'10		morning rise		2199 Feb 15 16:55	17°  ♁03'54		
						2199 Apr 16 22:30	0°  ♄		
conjunction	2193 Aug 30 13:11	7°  ♄47'49	0°53'43	retrograde		2199 Jun 25 14:03	6°  ♄54'21		
minimum elong	2193 Aug 30 13:09	7°  ♄47'48	0°53'43	opposition		2199 Aug 24 22:26	1°  ♄56'44	-1°-13'-43	
max. Earth dist.	2193 Aug 30 14:07	7°  ♄48'19	6.40399 AU	min. Earth dist.		2199 Aug 25 02:23	1°  ♄55'26	4.00572 AU	
morning rise	2193 Sep 12 19:06	10°  ♄40'08				2199 Sep 09 04:09	30°  ♄		
retrograde	2194 Jan 11 17:58	27°  ♄39'00		direct		2199 Oct 23 01:34	27°  ♄02'49		
opposition	2194 Mar 13 00:44	22°  ♄43'12	1°29'17			2199 Dec 05 00:25	0°  ♄		
min. Earth dist.	2194 Mar 13 09:10	22°  ♄40'27	4.43926 AU	evening set		2200 Feb 25 10:43	16°  ♄35'12		
direct	2194 May 14 04:05	17°  ♄40'19							
	2194 Aug 23 20:46	0°  ♅		conjunction		2200 Mar 10 12:04	19°  ♄44'27	0°-59'-35	
evening set	2194 Sep 17 19:12	5°  ♅12'13		minimum elong		2200 Mar 10 12:03	19°  ♄44'26	0°59'36	
				max. Earth dist.		2200 Mar 10 22:59	19°  ♄51'04	5.96642 AU	
conjunction	2194 Sep 30 20:13	8°  ♅00'52	1°05'19	morning rise		2200 Mar 23 15:57	22°  ♄55'15		
minimum elong	2194 Sep 30 20:13	8°  ♅00'52	1°05'18			2200 Apr 23 01:42	0°  ♄		
max. Earth dist.	2194 Sep 29 18:56	7°  ♅47'12	6.45581 AU	retrograde		2200 Aug 02 21:53	13°  ♄31'46		
morning rise	2194 Oct 13 18:22	10°  ♅48'08		opposition		2200 Oct 01 19:09	8°  ♄30'12	-1°-36'-56	
retrograde	2195 Feb 10 19:37	27°  ♅31'48		min. Earth dist.		2200 Oct 01 01:17	8°  ♄36'11	3.94949 AU	
opposition	2195 Apr 12 11:07	22°  ♅38'37	1°33'29	direct		2200 Nov 28 22:00	3°  ♄36'24		
min. Earth dist.	2195 Apr 13 11:27	22°  ♅30'48	4.45481 AU	evening set		2201 Apr 03 13:17	23°  ♄21'23		
direct	2195 Jun 14 03:53	17°  ♅36'26							
	2195 Sep 24 03:51	0°  ♆		conjunction		2201 Apr 16 22:25	26°  ♄34'48	-1°-2'-33	
evening set	2195 Oct 18 11:37	5°  ♆07'25		minimum elong		2201 Apr 16 22:26	26°  ♄34'49	1°02'33	
max. Earth dist.	2195 Oct 29 11:30	7°  ♆30'56	6.43328 AU	max. Earth dist.		2201 Apr 18 15:26	26°  ♄59'32	5.95481 AU	
				morning rise		2201 Apr 30 10:44	29°  ♄49'48		
conjunction	2195 Oct 31 06:58	7°  ♆54'40	0°59'13			2201 May 01 03:48	0°  ♄		
minimum elong	2195 Oct 31 07:00	7°  ♆54'41	0°59'14			2201 Jul 11 07:49	15°  ♄		
morning rise	2195 Nov 12 23:46	10°  ♆40'50		retrograde		2201 Sep 09 12:25	20°  ♄23'46		
	2195 Dec 03 06:33	15°  ♆		min. Earth dist.		2201 Nov 06 18:12	15°  ♄30'38	3.98489 AU	
retrograde	2196 Mar 12 18:18	27°  ♆38'07		opposition		2201 Nov 08 03:43	15°  ♄19'14	-1°-21'-25	
opposition	2196 May 12 15:09	22°  ♆46'11	1°12'45			2201 Nov 10 12:20	15°  ♄		
min. Earth dist.	2196 May 14 02:33	22°  ♆34'55	4.39580 AU	direct		2202 Jan 05 00:50	10°  ♄23'26		
direct	2196 Jul 14 07:06	17°  ♆45'35				2202 Feb 28 03:28	15°  ♄		
	2196 Oct 22 08:11	0°  ♄		evening set		2202 May 11 03:06	29°  ♄52'53		
evening set	2196 Nov 17 03:18	5°  ♄32'47				2202 May 11 15:15	0°  ♄		
max. Earth dist.	2196 Nov 27 15:46	7°  ♄53'25	6.34177 AU						
				conjunction		2202 May 24 19:03	3°  ♄05'49	0°-41'00	
conjunction	2196 Nov 29 19:41	8°  ♄22'26	0°36'45	minimum elong		2202 May 24 19:06	3°  ♄05'50	0°41'01	
minimum elong	2196 Nov 29 19:43	8°  ♄22'27	0°36'44	max. Earth dist.		2202 May 27 02:12	3°  ♄38'18	6.03305 AU	
morning rise	2196 Dec 12 10:42	11°  ♄11'34		morning rise		2202 Jun 07 13:16	6°  ♄19'38		
retrograde	2197 Apr 14 10:14	28°  ♄50'08		retrograde		2202 Oct 15 03:24	26°  ♄04'08		
opposition	2197 Jun 14 08:13	23°  ♄57'46	0°30'32	min. Earth dist.		2202 Dec 12 07:08	21°  ♄10'55	4.09643 AU	
min. Earth dist.	2197 Jun 15 20:10	23°  ♄46'17	4.27665 AU	opposition		2202 Dec 13 17:26	20°  ♄59'13	0°-35'-22	
direct	2197 Aug 15 05:59	18°  ♄59'20		direct		2203 Feb 10 08:20	16°  ♄00'23		

	2203 May 25 16:35	0°♄		direct	2208 Jul 19 16:19	22°♄11'05	
evening set	2203 Jun 16 19:07	4°♄55'00			2208 Oct 04 18:13	0°♄	
				evening set	2208 Nov 22 12:28	10°♄02'50	
conjunction	2203 Jun 30 13:14	8°♄02'46	0°-5'-9	max. Earth dist.	2208 Dec 03 02:41	12°♄25'01	6.32254 AU
minimum elong	2203 Jun 30 13:14	8°♄02'46	0°05'10				
behind sun begin	2203 Jun 30 05:08	7°♄58'10		conjunction	2208 Dec 05 04:51	12°♄53'12	0°32'28
behind sun end	2203 Jun 30 21:21	8°♄07'22		minimum elong	2208 Dec 05 04:52	12°♄53'12	0°32'28
max. Earth dist.	2203 Jul 02 14:36	8°♄30'53	6.16799 AU	morning rise	2208 Dec 17 19:44	15°♄43'06	
morning rise	2203 Jul 14 07:30	11°♄10'20			2209 Mar 02 10:31	0°♄	
asc. node	2203 Aug 23 04:09	19°♄44'03		retrograde	2209 Apr 20 05:41	3°♄29'59	
retrograde	2203 Nov 17 08:46	29°♄45'30			2209 Jun 09 04:49	30°♄	
min. Earth dist.	2204 Jan 15 01:20	24°♄51'21	4.24053 AU	opposition	2209 Jun 20 03:00	28°♄37'31	0°23'15
opposition	2204 Jan 16 02:14	24°♄42'57	0°20'05	min. Earth dist.	2209 Jun 21 14:16	28°♄26'16	4.25566 AU
direct	2204 Mar 15 22:22	19°♄41'37		direct	2209 Aug 20 21:06	23°♄39'31	
	2204 Jun 12 19:35	0°♄			2209 Oct 27 04:18	0°♄	
evening set	2204 Jul 20 16:40	7°♄57'55		desc. node	2209 Dec 08 10:29	8°♄28'13	
				evening set	2209 Dec 24 07:39	12°♄03'51	
conjunction	2204 Aug 03 06:52	10°♄57'54	0°30'57	max. Earth dist.	2210 Jan 04 05:59	14°♄35'26	6.18373 AU
minimum elong	2204 Aug 03 06:50	10°♄57'53	0°30'56				
max. Earth dist.	2204 Aug 04 07:34	11°♄11'33	6.30974 AU	conjunction	2210 Jan 06 00:19	14°♄59'58	0°-2'-44
morning rise	2204 Aug 16 19:46	13°♄56'57		minimum elong	2210 Jan 06 00:19	14°♄59'58	0°02'45
	2204 Aug 21 15:12	15°♄		behind sun begin	2210 Jan 05 16:20	14°♄55'22	
	2204 Nov 16 13:20	0°♄		behind sun end	2210 Jan 06 08:18	15°♄04'34	
retrograde	2204 Dec 17 16:09	1°♄30'54		morning rise	2210 Jan 18 17:12	17°♄56'26	
	2205 Jan 17 14:17	30°♄			2210 Mar 17 01:25	0°♄	
opposition	2205 Feb 15 15:53	26°♄31'59	1°05'57	retrograde	2210 May 25 13:04	6°♄47'47	
min. Earth dist.	2205 Feb 15 08:29	26°♄34'26	4.36863 AU	opposition	2210 Jul 25 05:24	1°♄53'07	0°-31'-50
direct	2205 Apr 17 20:48	21°♄29'16		min. Earth dist.	2210 Jul 26 03:17	1°♄46'02	4.11142 AU
	2205 Jul 07 21:13	0°♄			2210 Aug 09 04:36	30°♄	
evening set	2205 Aug 22 15:38	9°♄15'47		direct	2210 Sep 23 14:43	26°♄57'37	
					2210 Nov 07 00:13	0°♄	
conjunction	2205 Sep 04 23:02	12°♄08'37	0°56'20		2211 Jan 22 14:25	15°♄	
minimum elong	2205 Sep 04 23:00	12°♄08'36	0°56'20	evening set	2211 Jan 26 21:45	16°♄00'58	
max. Earth dist.	2205 Sep 04 20:37	12°♄07'18	6.41454 AU				
morning rise	2205 Sep 18 03:41	15°♄00'03		conjunction	2211 Feb 08 17:49	19°♄04'17	0°-38'-31
	2205 Dec 12 10:13	0°♄		minimum elong	2211 Feb 08 17:47	19°♄04'16	0°38'32
retrograde	2206 Jan 16 20:45	1°♄55'28		max. Earth dist.	2211 Feb 08 00:42	18°♄54'05	6.04704 AU
	2206 Feb 21 08:42	30°♄		morning rise	2211 Feb 21 15:21	22°♄08'40	
opposition	2206 Mar 18 05:30	27°♄00'06	1°31'22		2211 Mar 28 01:52	0°♄	
min. Earth dist.	2206 Mar 18 15:49	26°♄56'45	4.44435 AU	retrograde	2211 Jul 01 23:17	12°♄06'53	
direct	2206 May 19 10:23	21°♄57'16		opposition	2211 Aug 31 05:37	7°♄08'45	-1°-19'-2
	2206 Aug 06 17:47	0°♄		min. Earth dist.	2211 Aug 31 07:00	7°♄08'18	3.99508 AU
evening set	2206 Sep 23 02:23	9°♄28'42		direct	2211 Oct 29 05:19	2°♄15'01	
max. Earth dist.	2206 Oct 04 21:27	12°♄01'19	6.45501 AU	evening set	2212 Mar 02 13:53	21°♄49'50	
conjunction	2206 Oct 06 02:27	12°♄17'00	1°05'30	conjunction	2212 Mar 15 16:03	24°♄59'43	-1°-1'-32
minimum elong	2206 Oct 06 02:27	12°♄17'00	1°05'30	minimum elong	2212 Mar 15 16:02	24°♄59'42	1°01'33
morning rise	2206 Oct 18 23:47	15°♄03'59		max. Earth dist.	2212 Mar 16 06:41	25°♄08'34	5.96162 AU
	2207 Jan 12 13:39	0°♄		morning rise	2212 Mar 28 21:10	28°♄11'14	
retrograde	2207 Feb 16 02:34	1°♄48'36			2212 Apr 05 11:07	0°♄	
	2207 Mar 22 18:00	30°♄		retrograde	2212 Aug 08 04:42	18°♄49'30	
opposition	2207 Apr 17 17:57	26°♄55'45	1°32'02	min. Earth dist.	2212 Oct 06 04:21	13°♄54'39	3.95134 AU
min. Earth dist.	2207 Apr 18 21:12	26°♄47'01	4.44832 AU	opposition	2212 Oct 07 01:45	13°♄47'27	-1°-37'-5
direct	2207 Jun 19 12:14	21°♄53'45		direct	2212 Dec 04 02:01	8°♄53'30	
	2207 Sep 07 00:54	0°♄		evening set	2213 Apr 08 19:02	28°♄37'08	
evening set	2207 Oct 23 18:05	9°♄26'55			2213 Apr 14 13:15	0°♄	
max. Earth dist.	2207 Nov 03 14:46	11°♄49'10	6.42151 AU				
				conjunction	2213 Apr 22 05:13	1°♄50'39	-1°00'-52
conjunction	2207 Nov 05 12:55	12°♄14'25	0°56'58	minimum elong	2213 Apr 22 05:15	1°♄50'40	1°00'53
minimum elong	2207 Nov 05 12:57	12°♄14'26	0°56'59	max. Earth dist.	2213 Apr 24 00:52	2°♄16'55	5.96295 AU
morning rise	2207 Nov 18 05:23	15°♄00'55		morning rise	2213 May 05 18:30	5°♄05'42	
	2207 Nov 18 03:42	15°♄			2213 Jun 18 15:47	15°♄	
	2208 Feb 10 07:01	0°♄		retrograde	2213 Sep 14 14:08	25°♄34'26	
retrograde	2208 Mar 18 05:28	2°♄03'19		min. Earth dist.	2213 Nov 11 19:39	20°♄41'09	3.99825 AU
	2208 Apr 24 12:24	30°♄		opposition	2213 Nov 13 05:15	20°♄29'42	-1°-16'-23
opposition	2208 May 18 02:51	27°♄11'25	1°07'58	direct	2214 Jan 10 04:36	15°♄33'30	
min. Earth dist.	2208 May 19 14:21	27°♄00'06	4.37960 AU		2214 Apr 24 13:58	0°♄	

evening set	2214 May 16 06:46	4° Π 58'24		direct	2219 Jun 23 19:32	26° Ω 15'41	
					2219 Aug 14 19:55	0° \mathbb{M}	
conjunction	2214 May 29 23:28	8° Π 10'51	0°-36'-32	evening set	2219 Oct 28 01:54	13° \mathbb{M} 50'57	
minimum elong	2214 May 29 23:30	8° Π 10'52	0°36'33		2219 Nov 02 08:23	15° \mathbb{M}	
max. Earth dist.	2214 Jun 01 07:58	8° Π 43'58	6.05049 AU	max. Earth dist.	2219 Nov 07 21:29	16° \mathbb{M} 13'01	6.41054 AU
morning rise	2214 Jun 12 17:56	11° Π 24'00					
	2214 Sep 25 05:52	0° \mathfrak{S}		conjunction	2219 Nov 09 20:11	16° \mathbb{M} 38'40	0°54'23
retrograde	2214 Oct 19 21:31	0° \mathfrak{S} 59'07		minimum elong	2219 Nov 09 20:12	16° \mathbb{M} 38'41	0°54'22
	2214 Nov 13 07:13	30° \mathbb{R} Π		morning rise	2219 Nov 22 12:14	19° \mathbb{M} 25'27	
min. Earth dist.	2214 Dec 17 01:43	26° Π 05'56	4.11602 AU		2220 Jan 14 03:47	0° \mathfrak{X}	
opposition	2214 Dec 18 11:24	25° Π 54'29	0°-27'-43	retrograde	2220 Mar 22 19:22	6° \mathfrak{X} 32'38	
direct	2215 Feb 15 05:24	20° Π 55'19		opposition	2220 May 22 16:14	1° \mathfrak{X} 40'47	1°02'44
	2215 May 07 01:06	0° \mathfrak{S}		min. Earth dist.	2220 May 24 04:36	1° \mathfrak{X} 29'12	4.36543 AU
evening set	2215 Jun 21 17:49	9° \mathfrak{S} 44'28			2220 Jun 05 02:47	30° \mathbb{R} \mathbb{M}	
asc. node	2215 Jul 03 11:34	12° \mathfrak{S} 24'01		direct	2220 Jul 24 04:37	26° \mathbb{M} 40'48	
					2220 Sep 10 11:23	0° \mathfrak{X}	
conjunction	2215 Jul 05 11:32	12° \mathfrak{S} 51'13	0°00'12	evening set	2220 Nov 26 22:18	14° \mathfrak{X} 35'58	
minimum elong	2215 Jul 05 11:32	12° \mathfrak{S} 51'13	0°00'13	max. Earth dist.	2220 Dec 07 12:16	16° \mathfrak{X} 58'36	6.30643 AU
behind sun begin	2215 Jul 05 03:14	12° \mathfrak{S} 46'32					
behind sun end	2215 Jul 05 19:50	12° \mathfrak{S} 55'53		conjunction	2220 Dec 09 14:30	17° \mathfrak{X} 26'55	0°27'59
max. Earth dist.	2215 Jul 07 08:31	13° \mathfrak{S} 16'43	6.18801 AU	minimum elong	2220 Dec 09 14:31	17° \mathfrak{X} 26'56	0°27'59
morning rise	2215 Jul 19 05:30	15° \mathfrak{S} 57'43		morning rise	2220 Dec 22 05:34	20° \mathfrak{X} 17'32	
	2215 Sep 28 12:36	0° Ω			2221 Feb 06 11:16	0° \mathfrak{Z}	
retrograde	2215 Nov 21 19:30	4° Ω 23'47		retrograde	2221 Apr 25 00:46	8° \mathfrak{Z} 11'42	
	2216 Jan 15 19:16	30° \mathbb{R} \mathfrak{S}		opposition	2221 Jun 24 22:31	3° \mathfrak{Z} 18'57	0°15'49
opposition	2216 Jan 20 13:23	29° \mathfrak{S} 21'41	0°27'22	min. Earth dist.	2221 Jun 26 07:18	3° \mathfrak{Z} 08'28	4.23873 AU
min. Earth dist.	2216 Jan 19 15:10	29° \mathfrak{S} 29'10	4.25921 AU		2221 Jul 23 09:20	30° \mathbb{R} \mathfrak{X}	
direct	2216 Mar 20 14:26	24° \mathfrak{S} 20'03		direct	2221 Aug 25 12:01	28° \mathfrak{X} 21'18	
	2216 May 22 21:48	0° Ω			2221 Sep 27 10:20	0° \mathfrak{Z}	
evening set	2216 Jul 25 08:58	12° Ω 32'01		desc. node	2221 Oct 18 13:26	2° \mathfrak{Z} 36'01	
	2216 Aug 05 14:15	15° Ω		evening set	2221 Dec 28 21:44	16° \mathfrak{Z} 49'36	
				max. Earth dist.	2222 Jan 09 00:45	19° \mathfrak{Z} 24'24	6.16755 AU
conjunction	2216 Aug 07 22:33	15° Ω 31'01	0°35'17				
minimum elong	2216 Aug 07 22:31	15° Ω 31'00	0°35'17	conjunction	2222 Jan 10 14:42	19° \mathfrak{Z} 46'29	0°-7'-57
max. Earth dist.	2216 Aug 08 20:31	15° Ω 43'08	6.32579 AU	minimum elong	2222 Jan 10 14:41	19° \mathfrak{Z} 46'28	0°07'59
morning rise	2216 Aug 21 10:16	18° Ω 28'57		behind sun begin	2222 Jan 10 07:31	19° \mathfrak{Z} 42'19	
	2216 Oct 18 09:30	0° \mathbb{M}		behind sun end	2222 Jan 10 21:51	19° \mathfrak{Z} 50'38	
retrograde	2216 Dec 21 22:11	5° \mathbb{M} 56'37		morning rise	2222 Jan 23 07:49	22° \mathfrak{Z} 43'45	
opposition	2217 Feb 19 22:56	0° \mathbb{M} 58'16	1°10'52		2222 Feb 24 22:16	0° \approx	
min. Earth dist.	2217 Feb 19 17:36	1° \mathbb{M} 00'02	4.38099 AU	retrograde	2222 May 30 15:29	11° \approx 43'03	
	2217 Feb 27 08:33	30° \mathbb{R} Ω		opposition	2222 Jul 30 06:39	6° \approx 47'57	0°-39'-18
direct	2217 Apr 22 06:45	25° Ω 55'30		min. Earth dist.	2222 Jul 31 02:37	6° \approx 41'29	4.09729 AU
	2217 Jun 15 04:02	0° \mathbb{M}		direct	2222 Sep 28 12:19	1° \approx 52'46	
evening set	2217 Aug 27 02:46	13° \mathbb{M} 39'39			2223 Jan 05 18:37	15° \approx	
				evening set	2223 Jan 31 17:17	20° \approx 59'18	
conjunction	2217 Sep 09 09:00	16° \mathbb{M} 31'45	0°58'38				
minimum elong	2217 Sep 09 08:58	16° \mathbb{M} 31'44	0°58'38	conjunction	2223 Feb 13 13:49	24° \approx 03'18	0°-42'-43
max. Earth dist.	2217 Sep 09 01:13	16° \mathbb{M} 27'32	6.42220 AU	minimum elong	2223 Feb 13 13:47	24° \approx 03'17	0°42'44
morning rise	2217 Sep 22 12:45	19° \mathbb{M} 22'29		max. Earth dist.	2223 Feb 12 23:39	23° \approx 54'51	6.03614 AU
	2217 Nov 15 08:19	0° Ω		morning rise	2223 Feb 26 12:16	27° \approx 08'32	
retrograde	2218 Jan 21 03:27	6° Ω 15'30			2223 Mar 10 15:39	0° \mathfrak{H}	
opposition	2218 Mar 22 11:54	1° Ω 20'34	1°32'59	retrograde	2223 Jul 07 02:45	17° \mathfrak{H} 12'21	
min. Earth dist.	2218 Mar 23 01:35	1° Ω 16'08	4.44707 AU	opposition	2223 Sep 05 09:31	12° \mathfrak{H} 13'39	-1°-23'-31
	2218 Apr 01 23:09	30° \mathbb{R} \mathbb{M}		min. Earth dist.	2223 Sep 05 06:53	12° \mathfrak{H} 14'31	3.98874 AU
direct	2218 May 23 19:46	26° \mathbb{M} 17'46		direct	2223 Nov 03 05:01	7° \mathfrak{H} 19'58	
	2218 Jul 14 12:39	0° Ω		evening set	2224 Mar 07 13:50	26° \mathfrak{H} 55'45	
evening set	2218 Sep 27 10:21	13° Ω 49'10					
max. Earth dist.	2218 Oct 09 02:46	16° Ω 20'30	6.45260 AU	conjunction	2224 Mar 20 16:58	0° \mathbb{Y} 06'07	-1°-2'-55
				minimum elong	2224 Mar 20 16:58	0° \mathbb{Y} 06'07	1°02'56
conjunction	2218 Oct 10 09:43	16° Ω 37'16	1°05'21		2224 Mar 20 06:52	0° \mathbb{Y}	
minimum elong	2218 Oct 10 09:43	16° Ω 37'16	1°05'21	max. Earth dist.	2224 Mar 21 11:50	0° \mathbb{Y} 17'32	5.96029 AU
morning rise	2218 Oct 23 06:08	19° Ω 24'01		morning rise	2224 Apr 02 23:02	3° \mathbb{Y} 18'08	
	2218 Dec 15 23:48	0° \mathbb{M}		retrograde	2224 Aug 13 08:17	23° \mathbb{Y} 56'49	
retrograde	2219 Feb 20 09:21	6° \mathbb{M} 10'05		min. Earth dist.	2224 Oct 11 05:41	19° \mathbb{Y} 01'53	3.95521 AU
opposition	2219 Apr 22 02:22	1° \mathbb{M} 17'27	1°30'04	opposition	2224 Oct 12 04:19	18° \mathbb{Y} 54'15	-1°-36'-26
min. Earth dist.	2219 Apr 23 06:05	1° \mathbb{M} 08'35	4.44128 AU	direct	2224 Dec 09 04:22	14° \mathbb{Y} 00'03	
	2219 May 02 07:02	30° \mathbb{R} Ω			2225 Mar 29 04:35	0° \mathfrak{B}	

evening set	2225 Apr 13 20:37	3°♄41'42		max. Earth dist.	2230 Oct 13 05:49	20°♄37'08	6.45052 AU
conjunction	2225 Apr 27 07:54	6°♄55'18	0°-58'-46	conjunction	2230 Oct 14 16:08	20°♄55'44	1°04'48
minimum elong	2225 Apr 27 07:56	6°♄55'20	0°58'47	minimum elong	2230 Oct 14 16:09	20°♄55'44	1°04'48
max. Earth dist.	2225 Apr 29 06:46	7°♄23'25	5.97160 AU	morning rise	2230 Oct 27 11:56	23°♄42'19	
morning rise	2225 May 10 22:02	10°♄10'20			2230 Nov 26 17:21	0°♄	
	2225 May 31 14:35	15°♄		retrograde	2231 Feb 24 17:54	10°♄29'39	
	2225 Sep 01 00:13	0°♄		opposition	2231 Apr 26 10:33	5°♄37'13	1°27'35
retrograde	2225 Sep 19 12:12	0°♄33'39		min. Earth dist.	2231 Apr 27 16:27	5°♄27'39	4.43505 AU
	2225 Oct 07 20:05	30°♄		direct	2231 Jun 28 04:44	0°♄35'37	
min. Earth dist.	2225 Nov 16 16:20	25°♄40'25	4.01084 AU		2231 Oct 17 10:42	15°♄	
opposition	2225 Nov 18 02:20	25°♄28'50	-1°-10'-59	evening set	2231 Nov 01 08:18	18°♄12'25	
direct	2226 Jan 15 02:41	20°♄32'18		max. Earth dist.	2231 Nov 12 02:48	20°♄34'15	6.40038 AU
	2226 Apr 06 08:44	0°♄					
evening set	2226 May 21 06:53	9°♄53'20		conjunction	2231 Nov 14 02:13	21°♄00'22	0°51'29
				minimum elong	2231 Nov 14 02:15	21°♄00'23	0°51'29
conjunction	2226 Jun 03 23:55	13°♄05'16	0°-31'-59	morning rise	2231 Nov 26 17:52	23°♄47'25	
minimum elong	2226 Jun 03 23:57	13°♄05'17	0°32'01		2231 Dec 26 00:35	0°♄	
max. Earth dist.	2226 Jun 06 06:06	13°♄36'54	6.06573 AU	retrograde	2232 Mar 27 06:15	10°♄59'13	
morning rise	2226 Jun 17 18:53	16°♄17'52		opposition	2232 May 27 04:30	6°♄07'18	0°57'08
	2226 Aug 22 23:30	0°♄		min. Earth dist.	2232 May 28 16:04	5°♄55'58	4.35171 AU
retrograde	2226 Oct 24 11:31	5°♄44'49		direct	2232 Jul 28 13:26	1°♄07'36	
min. Earth dist.	2226 Dec 21 17:24	0°♄51'28	4.13237 AU	evening set	2232 Dec 01 06:55	19°♄06'11	
opposition	2226 Dec 23 01:50	0°♄40'26	0°-20'-11	max. Earth dist.	2232 Dec 11 22:11	21°♄30'06	6.29005 AU
	2226 Dec 28 01:05	30°♄					
direct	2227 Feb 19 23:25	25°♄40'51		conjunction	2232 Dec 13 22:59	21°♄57'44	0°23'21
	2227 Apr 14 10:14	0°♄		minimum elong	2232 Dec 13 23:00	21°♄57'45	0°23'21
asc. node	2227 May 15 05:34	5°♄23'04		morning rise	2232 Dec 26 14:05	24°♄49'02	
evening set	2227 Jun 26 13:26	14°♄25'59			2233 Jan 19 03:33	0°♄	
				retrograde	2233 Apr 29 20:41	12°♄50'50	
conjunction	2227 Jul 10 07:07	17°♄31'57	0°05'22	opposition	2233 Jun 29 16:51	7°♄57'52	0°08'17
minimum elong	2227 Jul 10 07:06	17°♄31'57	0°05'22	min. Earth dist.	2233 Jul 01 01:33	7°♄47'24	4.22042 AU
behind sun begin	2227 Jul 09 23:03	17°♄27'25		desc. node	2233 Aug 28 18:49	3°♄00'43	
behind sun end	2227 Jul 10 15:09	17°♄36'28		direct	2233 Aug 30 03:30	3°♄00'33	
max. Earth dist.	2227 Jul 12 02:12	17°♄56'18	6.20440 AU	evening set	2234 Jan 02 11:05	21°♄33'41	
morning rise	2227 Jul 24 00:24	20°♄37'28		max. Earth dist.	2234 Jan 13 15:50	24°♄10'09	6.14882 AU
	2227 Sep 06 10:26	0°♄					
retrograde	2227 Nov 26 05:17	8°♄56'01		conjunction	2234 Jan 15 04:20	24°♄31'28	0°-13'-7
opposition	2228 Jan 24 22:43	3°♄54'28	0°34'14	minimum elong	2234 Jan 15 04:19	24°♄31'28	0°13'08
min. Earth dist.	2228 Jan 24 02:40	4°♄01'12	4.27426 AU	behind sun begin	2234 Jan 14 23:26	24°♄28'37	
	2228 Feb 27 14:05	30°♄		behind sun end	2234 Jan 15 09:13	24°♄34'18	
direct	2228 Mar 25 03:31	28°♄52'40		morning rise	2234 Jan 27 22:06	27°♄29'47	
	2228 Apr 21 00:41	0°♄			2234 Feb 07 18:53	0°♄	
	2228 Jul 20 15:36	15°♄			2234 May 03 01:33	15°♄	
evening set	2228 Jul 29 23:35	17°♄01'28		retrograde	2234 Jun 04 15:54	16°♄38'15	
					2234 Jul 07 10:12	15°♄	
conjunction	2228 Aug 12 12:13	19°♄59'36	0°39'18	opposition	2234 Aug 04 07:16	11°♄42'43	0°-46'-33
minimum elong	2228 Aug 12 12:10	19°♄59'35	0°39'18	min. Earth dist.	2234 Aug 04 23:49	11°♄37'21	4.07971 AU
max. Earth dist.	2228 Aug 13 05:29	20°♄09'06	6.33835 AU	direct	2234 Oct 03 07:12	6°♄47'49	
morning rise	2228 Aug 25 23:07	22°♄56'38			2234 Dec 17 19:33	15°♄	
	2228 Sep 28 14:52	0°♄		evening set	2235 Feb 05 13:11	25°♄59'14	
retrograde	2228 Dec 26 03:58	10°♄19'21					
opposition	2229 Feb 24 05:19	5°♄21'29	1°15'16	conjunction	2235 Feb 18 10:29	29°♄04'14	0°-46'-40
min. Earth dist.	2229 Feb 24 02:34	5°♄22'23	4.39052 AU	minimum elong	2235 Feb 18 10:27	29°♄04'12	0°46'42
direct	2229 Apr 26 16:20	0°♄18'39		max. Earth dist.	2235 Feb 18 00:52	28°♄58'28	6.02128 AU
evening set	2229 Aug 31 12:55	18°♄01'10			2235 Feb 22 07:29	0°♄	
				morning rise	2235 Mar 03 09:47	2°♄10'30	
conjunction	2229 Sep 13 18:20	20°♄52'40	1°00'34	retrograde	2235 Jul 12 10:22	22°♄21'47	
minimum elong	2229 Sep 13 18:18	20°♄52'39	1°00'33	opposition	2235 Sep 10 14:34	17°♄22'31	-1°-27'-31
max. Earth dist.	2229 Sep 13 08:51	20°♄47'32	6.42808 AU	min. Earth dist.	2235 Sep 10 09:47	17°♄24'06	3.97811 AU
morning rise	2229 Sep 26 20:51	23°♄42'43		direct	2235 Nov 08 07:20	12°♄28'51	
	2229 Oct 27 02:41	0°♄			2236 Mar 03 18:50	0°♄	
retrograde	2230 Jan 25 07:51	10°♄33'47		evening set	2236 Mar 12 16:03	2°♄07'31	
opposition	2230 Mar 26 17:45	5°♄39'16	1°34'01				
min. Earth dist.	2230 Mar 27 08:41	5°♄34'26	4.44914 AU	conjunction	2236 Mar 25 20:22	5°♄18'39	-1°-3'-53
direct	2230 May 28 02:53	0°♄36'37		minimum elong	2236 Mar 25 20:22	5°♄18'39	1°03'53
evening set	2230 Oct 01 17:45	18°♄07'55		max. Earth dist.	2236 Mar 26 19:52	5°♄32'53	5.95490 AU

morning rise	2236 Apr 08 03:37	8° Υ 31'26		direct	2242 Jun 01 10:31	4° Ω 51'11	
retrograde	2236 Aug 18 14:27	29° Υ 11'44		evening set	2242 Oct 05 22:19	22° Ω 20'27	
min. Earth dist.	2236 Oct 16 08:05	24° Υ 17'12	3.95593 AU	max. Earth dist.	2242 Oct 17 08:15	24° Ω 48'28	6.45270 AU
opposition	2236 Oct 17 09:02	24° Υ 08'47	-1°-35'-4				
direct	2236 Dec 14 06:43	19° Υ 14'22		conjunction	2242 Oct 18 20:01	25° Ω 07'52	1°03'56
	2237 Mar 10 21:50	0° Υ		minimum elong	2242 Oct 18 20:01	25° Ω 07'53	1°03'55
evening set	2237 Apr 19 02:12	8° Υ 55'28		morning rise	2242 Oct 31 14:48	27° Ω 54'01	
					2242 Nov 10 10:22	0° Υ	
conjunction	2237 May 02 14:25	12° Υ 09'14	0°-56'-10	retrograde	2243 Feb 28 20:46	14° Υ 41'29	
minimum elong	2237 May 02 14:27	12° Υ 09'16	0°56'10	opposition	2243 Apr 30 15:44	9° Υ 49'11	1°24'41
max. Earth dist.	2237 May 04 14:09	12° Υ 37'48	5.97816 AU	min. Earth dist.	2243 May 01 22:41	9° Υ 39'18	4.43170 AU
	2237 May 14 12:33	15° Υ		direct	2243 Jul 02 09:26	4° Υ 47'46	
morning rise	2237 May 16 05:41	15° Υ 24'25			2243 Sep 30 22:21	15° Υ	
	2237 Jul 24 10:08	0° Υ		evening set	2243 Nov 05 11:34	22° Υ 25'18	
retrograde	2237 Sep 24 12:21	5° Υ 42'42		max. Earth dist.	2243 Nov 16 03:00	24° Υ 45'50	6.39154 AU
min. Earth dist.	2237 Nov 21 15:41	0° Υ 49'40	4.02246 AU				
opposition	2237 Nov 23 02:35	0° Υ 37'46	-1°-4'-54	conjunction	2243 Nov 18 04:52	25° Υ 13'23	0°48'24
	2237 Nov 27 17:43	30° Υ		minimum elong	2243 Nov 18 04:54	25° Υ 13'24	0°48'25
direct	2238 Jan 20 04:46	25° Υ 40'48		morning rise	2243 Nov 30 20:20	28° Υ 00'41	
	2238 Mar 13 17:18	0° Υ			2243 Dec 09 23:08	0° Υ	
evening set	2238 May 26 10:51	14° Υ 58'15		retrograde	2244 Mar 31 16:23	15° Υ 16'57	
				opposition	2244 May 31 13:40	10° Υ 24'59	0°51'23
conjunction	2238 Jun 09 04:32	18° Υ 09'43	0°-27'-2	min. Earth dist.	2244 Jun 02 02:59	10° Υ 13'05	4.33755 AU
minimum elong	2238 Jun 09 04:34	18° Υ 09'44	0°27'03	direct	2244 Aug 01 21:45	5° Υ 25'27	
max. Earth dist.	2238 Jun 11 11:33	18° Υ 41'43	6.08171 AU	evening set	2244 Dec 05 12:08	23° Υ 27'49	
morning rise	2238 Jun 22 23:33	21° Υ 21'38		max. Earth dist.	2244 Dec 16 03:12	25° Υ 52'12	6.27162 AU
	2238 Aug 01 07:24	0° Υ					
retrograde	2238 Oct 29 06:24	10° Υ 39'45		conjunction	2244 Dec 18 04:20	26° Υ 20'08	0°18'43
opposition	2238 Dec 27 19:45	5° Υ 35'39	0°-12'-16	minimum elong	2244 Dec 18 04:21	26° Υ 20'08	0°18'43
min. Earth dist.	2238 Dec 26 12:41	5° Υ 46'12	4.15101 AU	morning rise	2244 Dec 30 19:36	29° Υ 12'16	
direct	2239 Feb 24 21:22	0° Υ 35'46			2245 Jan 03 08:13	0° Υ	
asc. node	2239 Mar 24 19:57	1° Υ 51'07		retrograde	2245 May 04 11:48	17° Υ 22'44	
evening set	2239 Jul 01 12:31	19° Υ 15'44		opposition	2245 Jul 04 08:31	12° Υ 29'29	0°00'52
				min. Earth dist.	2245 Jul 05 15:37	12° Υ 19'31	4.19884 AU
conjunction	2239 Jul 15 05:41	22° Υ 20'38	0°10'36	desc. node	2245 Jul 10 15:25	11° Υ 41'20	
minimum elong	2239 Jul 15 05:40	22° Υ 20'37	0°10'35	direct	2245 Sep 03 13:35	7° Υ 32'28	
behind sun begin	2239 Jul 14 23:17	22° Υ 17'03		evening set	2246 Jan 06 22:26	26° Υ 11'57	
behind sun end	2239 Jul 15 12:03	22° Υ 24'11		max. Earth dist.	2246 Jan 18 05:52	28° Υ 50'46	6.12587 AU
max. Earth dist.	2239 Jul 16 22:16	22° Υ 43'27	6.22443 AU				
morning rise	2239 Jul 28 22:26	25° Υ 25'00		conjunction	2246 Jan 19 16:04	29° Υ 10'52	0°-18'-5
	2239 Aug 18 21:37	0° Υ		minimum elong	2246 Jan 19 16:03	29° Υ 10'51	0°18'06
retrograde	2239 Nov 30 14:25	13° Υ 34'20			2246 Jan 23 03:45	0° Υ	
opposition	2240 Jan 29 10:06	8° Υ 33'12	0°41'04	morning rise	2246 Feb 01 10:28	2° Υ 10'26	
min. Earth dist.	2240 Jan 28 15:19	8° Υ 39'30	4.29425 AU		2246 Apr 03 03:24	15° Υ	
direct	2240 Mar 29 18:53	3° Υ 31'10		retrograde	2246 Jun 09 18:25	21° Υ 30'03	
	2240 Jul 03 09:24	15° Υ		opposition	2246 Aug 09 06:53	16° Υ 34'06	0°-53'-25
evening set	2240 Aug 03 15:43	21° Υ 34'49		min. Earth dist.	2246 Aug 09 22:01	16° Υ 29'11	4.05719 AU
					2246 Aug 21 12:53	15° Υ	
conjunction	2240 Aug 17 03:25	24° Υ 31'46	0°43'09	direct	2246 Oct 08 02:48	11° Υ 39'24	
minimum elong	2240 Aug 17 03:23	24° Υ 31'44	0°43'09		2246 Nov 23 07:54	15° Υ	
max. Earth dist.	2240 Aug 17 18:06	24° Υ 39'48	6.35704 AU		2247 Feb 06 07:58	0° Υ	
morning rise	2240 Aug 30 13:02	27° Υ 27'30		evening set	2247 Feb 10 09:09	0° Υ 57'54	
	2240 Sep 11 08:24	0° Υ					
retrograde	2240 Dec 30 09:35	14° Υ 43'00		conjunction	2247 Feb 23 07:27	4° Υ 04'13	0°-50'-14
opposition	2241 Feb 28 12:10	9° Υ 45'37	1°19'15	minimum elong	2247 Feb 23 07:25	4° Υ 04'12	0°50'15
min. Earth dist.	2241 Feb 28 11:44	9° Υ 45'46	4.40662 AU	max. Earth dist.	2247 Feb 23 01:56	4° Υ 00'54	6.00138 AU
direct	2241 May 01 03:51	4° Υ 42'45		morning rise	2247 Mar 08 07:50	7° Υ 11'53	
evening set	2241 Sep 04 22:19	22° Υ 21'08		retrograde	2247 Jul 17 18:21	27° Υ 32'28	
				opposition	2247 Sep 15 20:03	22° Υ 32'44	-1°-30'-50
conjunction	2241 Sep 18 02:31	25° Υ 11'40	1°02'09	min. Earth dist.	2247 Sep 15 11:56	22° Υ 35'25	3.96324 AU
minimum elong	2241 Sep 18 02:29	25° Υ 11'40	1°02'09	direct	2247 Nov 13 07:14	17° Υ 39'09	
max. Earth dist.	2241 Sep 17 12:31	25° Υ 04'07	6.44020 AU		2248 Feb 15 04:47	0° Υ	
morning rise	2241 Oct 01 04:03	28° Υ 00'50		evening set	2248 Mar 17 20:17	7° Υ 22'33	
	2241 Oct 10 11:32	0° Υ					
retrograde	2242 Jan 29 11:09	14° Υ 48'05		conjunction	2248 Mar 31 01:43	10° Υ 34'39	-1°-4'-17
opposition	2242 Mar 30 22:28	9° Υ 53'50	1°34'31	minimum elong	2248 Mar 31 01:43	10° Υ 34'39	1°04'19
min. Earth dist.	2242 Mar 31 15:56	9° Υ 48'11	4.45663 AU	max. Earth dist.	2248 Apr 01 04:35	10° Υ 50'56	5.94633 AU














































































































































































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	2248 Jun 30 04:53	0° \mathcal{B}		evening set	2254 Oct 10 05:37	26° Ω 40'38	
retrograde	2248 Aug 23 21:48	4° \mathcal{B} 31'24		max. Earth dist.	2254 Oct 21 10:24	29° Ω 06'09	6.44910 AU
	2248 Oct 18 16:58	30° $\mathcal{R}\Upsilon$					
min. Earth dist.	2248 Oct 21 11:44	29° Υ 37'26	3.95474 AU	conjunction	2254 Oct 23 02:25	29° Ω 27'53	1°02'44
opposition	2248 Oct 22 15:38	29° Υ 28'00	-1°-32'-51	minimum elong	2254 Oct 23 02:26	29° Ω 27'53	1°02'43
direct	2248 Dec 19 12:04	24° Υ 33'19			2254 Oct 25 13:34	0° \mathcal{M}	
	2249 Feb 16 10:58	0° \mathcal{B}		morning rise	2254 Nov 04 20:42	2° \mathcal{M} 13'57	
evening set	2249 Apr 24 10:11	14° \mathcal{B} 14'27			2255 Jan 11 07:27	15° \mathcal{M}	
	2249 Apr 27 14:49	15° \mathcal{B}		retrograde	2255 Mar 05 06:09	19° \mathcal{M} 03'37	
					2255 Apr 28 16:12	15° $\mathcal{R}\mathcal{M}$	
conjunction	2249 May 07 23:40	17° \mathcal{B} 28'29	0°-53'-2	opposition	2255 May 05 01:09	14° \mathcal{M} 11'26	1°21'18
minimum elong	2249 May 07 23:43	17° \mathcal{B} 28'30	0°53'03	min. Earth dist.	2255 May 06 10:07	14° \mathcal{M} 00'54	4.42241 AU
max. Earth dist.	2249 May 10 03:44	17° \mathcal{B} 59'34	5.98454 AU	direct	2255 Jul 06 19:06	9° \mathcal{M} 10'11	
morning rise	2249 May 21 15:44	20° \mathcal{B} 43'45			2255 Sep 10 17:23	15° \mathcal{M}	
	2249 Jul 01 20:37	0° \mathcal{I}		evening set	2255 Nov 09 18:50	26° \mathcal{M} 50'18	
retrograde	2249 Sep 29 16:25	10° \mathcal{I} 56'35		max. Earth dist.	2255 Nov 20 10:10	29° \mathcal{M} 11'12	6.37728 AU
min. Earth dist.	2249 Nov 26 17:44	6° \mathcal{I} 03'31	4.03539 AU				
opposition	2249 Nov 28 04:49	5° \mathcal{I} 51'33	0°-58'-11	conjunction	2255 Nov 22 11:59	29° \mathcal{M} 38'49	0°44'56
direct	2250 Jan 25 09:37	0° \mathcal{I} 54'10		minimum elong	2255 Nov 22 12:01	29° \mathcal{M} 38'50	0°44'57
evening set	2250 May 31 17:05	20° \mathcal{I} 07'20			2255 Nov 24 02:13	0° \mathcal{J}	
				morning rise	2255 Dec 05 03:05	2° \mathcal{J} 26'35	
conjunction	2250 Jun 14 11:00	23° \mathcal{I} 18'06	0°-21'-48	retrograde	2256 Apr 05 06:01	19° \mathcal{J} 49'14	
minimum elong	2250 Jun 14 11:01	23° \mathcal{I} 18'07	0°21'48	opposition	2256 Jun 05 04:33	14° \mathcal{J} 57'10	0°45'03
max. Earth dist.	2250 Jun 16 17:59	23° \mathcal{I} 49'56	6.09972 AU	min. Earth dist.	2256 Jun 06 17:28	14° \mathcal{J} 45'25	4.31912 AU
morning rise	2250 Jun 28 06:10	26° \mathcal{I} 29'12		direct	2256 Aug 06 09:10	9° \mathcal{J} 58'00	
	2250 Jul 13 18:37	0° \mathcal{E}		evening set	2256 Dec 09 23:26	28° \mathcal{J} 05'22	
retrograde	2250 Nov 02 23:00	15° \mathcal{E} 37'20			2256 Dec 18 09:04	0° \mathcal{Z}	
min. Earth dist.	2250 Dec 31 07:21	10° \mathcal{E} 44'00	4.17193 AU	max. Earth dist.	2256 Dec 20 14:56	0° \mathcal{Z} 30'45	6.25049 AU
opposition	2251 Jan 01 14:22	10° \mathcal{E} 33'28	0°-4'-10				
asc. node	2251 Jan 31 09:15	6° \mathcal{E} 57'48		conjunction	2256 Dec 22 15:33	0° \mathcal{Z} 58'31	0°13'43
direct	2251 Mar 01 19:18	5° \mathcal{E} 33'10		minimum elong	2256 Dec 22 15:33	0° \mathcal{Z} 58'32	0°13'43
evening set	2251 Jul 06 12:20	24° \mathcal{E} 07'14		behind sun begin	2256 Dec 22 11:08	0° \mathcal{Z} 56'01	
				behind sun end	2256 Dec 22 19:58	1° \mathcal{Z} 01'02	
conjunction	2251 Jul 20 04:55	27° \mathcal{E} 10'56	0°15'49	morning rise	2257 Jan 04 07:11	3° \mathcal{Z} 51'40	
minimum elong	2251 Jul 20 04:54	27° \mathcal{E} 10'55	0°15'49	retrograde	2257 May 09 12:05	22° \mathcal{Z} 11'46	
max. Earth dist.	2251 Jul 21 18:18	27° \mathcal{E} 31'52	6.24626 AU	desc. node	2257 May 19 21:14	22° \mathcal{Z} 01'34	
	2251 Aug 01 19:38	0° \mathcal{Q}		opposition	2257 Jul 09 07:04	17° \mathcal{Z} 18'15	0°-7'00
morning rise	2251 Aug 02 20:48	0° \mathcal{Q} 13'58		min. Earth dist.	2257 Jul 10 13:15	17° \mathcal{Z} 08'32	4.17634 AU
	2251 Oct 19 22:39	15° \mathcal{Q}		direct	2257 Sep 08 08:49	12° \mathcal{Z} 21'31	
retrograde	2251 Dec 05 02:07	18° \mathcal{Q} 13'47			2258 Jan 06 20:40	0° \approx	
	2252 Jan 20 06:49	15° $\mathcal{R}\mathcal{Q}$		evening set	2258 Jan 11 16:18	1° \approx 07'23	
opposition	2252 Feb 02 22:10	13° \mathcal{Q} 13'09	0°47'41	max. Earth dist.	2258 Jan 23 03:59	3° \approx 49'25	6.10419 AU
min. Earth dist.	2252 Feb 02 06:22	13° \mathcal{Q} 18'26	4.31476 AU				
direct	2252 Apr 03 12:44	8° \mathcal{Q} 10'56		conjunction	2258 Jan 24 10:34	4° \approx 07'27	0°-23'-15
	2252 Jun 13 08:35	15° \mathcal{Q}		minimum elong	2258 Jan 24 10:33	4° \approx 07'26	0°23'16
evening set	2252 Aug 08 07:56	26° \mathcal{Q} 09'23		morning rise	2258 Feb 06 05:37	7° \approx 08'15	
					2258 Mar 13 03:18	15° \approx	
conjunction	2252 Aug 21 18:35	29° \mathcal{Q} 05'12	0°46'49	retrograde	2258 Jun 15 01:56	26° \approx 38'11	
minimum elong	2252 Aug 21 18:33	29° \mathcal{Q} 05'11	0°46'48	opposition	2258 Aug 14 12:48	21° \approx 41'48	-1°00'-17
max. Earth dist.	2252 Aug 22 05:26	29° \mathcal{Q} 11'07	6.37436 AU	min. Earth dist.	2258 Aug 15 00:29	21° \approx 37'59	4.03861 AU
	2252 Aug 25 22:59	0° \mathcal{P}		direct	2258 Oct 13 02:42	16° \approx 47'25	
morning rise	2252 Sep 04 03:02	1° \mathcal{P} 59'45			2259 Jan 19 22:00	0° \mathcal{H}	
retrograde	2253 Jan 03 14:39	19° \mathcal{P} 09'00		evening set	2259 Feb 15 10:56	6° \mathcal{H} 11'10	
opposition	2253 Mar 04 19:50	14° \mathcal{P} 12'04	1°22'53				
min. Earth dist.	2253 Mar 04 21:31	14° \mathcal{P} 11'31	4.41975 AU	conjunction	2259 Feb 28 09:59	9° \mathcal{H} 18'28	0°-53'-37
direct	2253 May 05 14:47	9° \mathcal{P} 09'10		minimum elong	2259 Feb 28 09:57	9° \mathcal{H} 18'27	0°53'37
evening set	2253 Sep 09 08:42	26° \mathcal{P} 44'40		max. Earth dist.	2259 Feb 28 08:36	9° \mathcal{H} 17'38	5.98768 AU
				morning rise	2259 Mar 13 11:33	12° \mathcal{H} 27'14	
conjunction	2253 Sep 22 11:53	29° \mathcal{P} 34'28	1°03'28		2259 Jun 09 18:12	0° Υ	
minimum elong	2253 Sep 22 11:52	29° \mathcal{P} 34'28	1°03'29	retrograde	2259 Jul 23 04:26	2° Υ 54'11	
max. Earth dist.	2253 Sep 21 18:46	29° \mathcal{P} 25'13	6.44813 AU		2259 Sep 04 22:27	30° $\mathcal{R}\mathcal{H}$	
	2253 Sep 24 11:07	0° Ω		opposition	2259 Sep 21 05:38	27° \mathcal{H} 53'49	-1°-33'-32
morning rise	2253 Oct 05 12:13	2° Ω 22'53		min. Earth dist.	2259 Sep 20 17:39	27° \mathcal{H} 57'49	3.95626 AU
retrograde	2254 Feb 02 16:30	19° Ω 07'56		direct	2259 Nov 18 13:31	23° \mathcal{H} 00'13	
opposition	2254 Apr 04 05:12	14° Ω 14'05	1°34'37		2260 Jan 25 07:04	0° Υ	
min. Earth dist.	2254 Apr 05 01:15	14° Ω 07'37	4.45897 AU	evening set	2260 Mar 23 03:36	12° Υ 44'55	

conjunction	2260 Apr 05 10:20	15° Υ 57'33	-1°-4'-14	retrograde	2266 Feb 06 21:14	23° Ω 24'15	
minimum elong	2260 Apr 05 10:21	15° Υ 57'33	1°04'15	opposition	2266 Apr 08 11:13	18° Ω 30'43	1°34'15
max. Earth dist.	2260 Apr 06 19:30	16° Υ 17'38	5.94694 AU	min. Earth dist.	2266 Apr 09 09:09	18° Ω 23'39	4.45608 AU
morning rise	2260 Apr 18 20:00	19° Υ 11'48		direct	2266 Jun 10 02:09	13° Ω 28'22	
	2260 Jun 05 17:52	0° \mathcal{B}			2266 Oct 09 22:31	0° \mathcal{M}	
retrograde	2260 Aug 29 06:43	9° \mathcal{B} 52'52		evening set	2266 Oct 14 12:00	0° \mathcal{M} 58'51	
opposition	2260 Oct 27 22:38	4° \mathcal{B} 49'03	-1°-29'-52	max. Earth dist.	2266 Oct 25 15:05	3° \mathcal{M} 23'46	6.44053 AU
min. Earth dist.	2260 Oct 26 17:19	4° \mathcal{B} 59'00	3.96301 AU				
	2260 Dec 17 06:27	30° $\mathcal{R}\Upsilon$		conjunction	2266 Oct 27 08:14	3° \mathcal{M} 46'11	1°01'12
direct	2260 Dec 24 19:47	29° Υ 54'04		minimum elong	2266 Oct 27 08:15	3° \mathcal{M} 46'11	1°01'12
	2261 Jan 01 08:44	0° \mathcal{B}		morning rise	2266 Nov 09 01:49	6° \mathcal{M} 32'21	
	2261 Apr 10 07:42	15° \mathcal{B}			2266 Dec 20 09:41	15° \mathcal{M}	
evening set	2261 Apr 29 18:05	19° \mathcal{B} 31'34		retrograde	2267 Mar 09 15:29	23° \mathcal{M} 25'59	
				opposition	2267 May 09 11:09	18° \mathcal{M} 33'59	1°17'29
conjunction	2261 May 13 08:19	22° \mathcal{B} 45'17	0°-49'-32	min. Earth dist.	2267 May 10 21:24	18° \mathcal{M} 23'04	4.40875 AU
minimum elong	2261 May 13 08:22	22° \mathcal{B} 45'18	0°49'34		2267 Jun 09 16:31	15° $\mathcal{R}\mathcal{M}$	
max. Earth dist.	2261 May 15 14:07	23° \mathcal{B} 17'14	5.99944 AU	direct	2267 Jul 11 04:13	13° \mathcal{M} 33'04	
morning rise	2261 May 27 01:13	26° \mathcal{B} 00'09			2267 Aug 11 16:47	15° \mathcal{M}	
	2261 Jun 13 06:34	0° \mathcal{I}			2267 Nov 08 06:29	0° \mathcal{J}	
retrograde	2261 Oct 04 14:23	16° \mathcal{I} 03'59		evening set	2267 Nov 14 03:05	1° \mathcal{J} 17'09	
min. Earth dist.	2261 Dec 01 16:05	11° \mathcal{I} 11'15	4.05518 AU	max. Earth dist.	2267 Nov 24 16:13	3° \mathcal{J} 37'31	6.35954 AU
opposition	2261 Dec 03 04:15	10° \mathcal{I} 58'55	0°-51'-11				
direct	2262 Jan 30 10:55	6° \mathcal{I} 01'04		conjunction	2267 Nov 26 19:50	4° \mathcal{J} 06'15	0°41'12
evening set	2262 Jun 05 20:03	25° \mathcal{I} 07'49		minimum elong	2267 Nov 26 19:52	4° \mathcal{J} 06'16	0°41'12
				morning rise	2267 Dec 09 11:01	6° \mathcal{J} 54'44	
conjunction	2262 Jun 19 14:03	28° \mathcal{I} 17'35	0°-16'-34	retrograde	2268 Apr 09 23:32	24° \mathcal{J} 25'05	
minimum elong	2262 Jun 19 14:04	28° \mathcal{I} 17'35	0°16'34	opposition	2268 Jun 09 21:20	19° \mathcal{J} 32'56	0°38'23
max. Earth dist.	2262 Jun 21 18:44	28° \mathcal{I} 47'55	6.12253 AU	min. Earth dist.	2268 Jun 11 09:51	19° \mathcal{J} 21'16	4.29842 AU
	2262 Jun 27 00:05	0° \mathcal{E}		direct	2268 Aug 10 22:59	14° \mathcal{J} 34'06	
morning rise	2262 Jul 03 09:02	1° \mathcal{E} 27'32			2268 Dec 02 02:53	0° \mathcal{Z}	
retrograde	2262 Nov 07 13:49	20° \mathcal{E} 24'39		evening set	2268 Dec 14 12:08	2° \mathcal{Z} 47'10	
asc. node	2262 Dec 11 07:38	18° \mathcal{E} 34'42		max. Earth dist.	2268 Dec 25 06:55	5° \mathcal{Z} 15'06	6.22870 AU
min. Earth dist.	2263 Jan 05 01:07	15° \mathcal{E} 30'44	4.19521 AU				
opposition	2263 Jan 06 05:30	15° \mathcal{E} 21'07	0°03'37	conjunction	2268 Dec 27 04:35	5° \mathcal{Z} 41'19	0°08'35
direct	2263 Mar 06 16:11	10° \mathcal{E} 20'28		minimum elong	2268 Dec 27 04:34	5° \mathcal{Z} 41'19	0°08'36
evening set	2263 Jul 11 07:55	28° \mathcal{E} 48'07		behind sun begin	2268 Dec 26 21:36	5° \mathcal{Z} 37'20	
	2263 Jul 16 17:23	0° \mathcal{O}		behind sun end	2268 Dec 27 11:33	5° \mathcal{Z} 45'17	
				morning rise	2269 Jan 08 20:24	8° \mathcal{Z} 35'29	
conjunction	2263 Jul 24 23:56	1° \mathcal{O} 50'36	0°20'45	desc. node	2269 Mar 28 23:36	23° \mathcal{Z} 52'06	
minimum elong	2263 Jul 24 23:54	1° \mathcal{O} 50'36	0°20'46	retrograde	2269 May 14 13:16	27° \mathcal{Z} 05'30	
max. Earth dist.	2263 Jul 26 10:36	2° \mathcal{O} 09'56	6.26812 AU	opposition	2269 Jul 14 07:43	22° \mathcal{Z} 11'43	0°-14'-57
morning rise	2263 Aug 07 14:50	4° \mathcal{O} 52'18		min. Earth dist.	2269 Jul 15 11:23	22° \mathcal{Z} 02'49	4.15521 AU
	2263 Sep 25 19:57	15° \mathcal{O}		direct	2269 Sep 13 04:10	17° \mathcal{Z} 15'27	
retrograde	2263 Dec 09 08:05	22° \mathcal{O} 43'12			2269 Dec 20 15:48	0° \approx	
opposition	2264 Feb 07 06:31	17° \mathcal{O} 43'06	0°53'47	evening set	2270 Jan 16 11:49	6° \approx 06'59	
min. Earth dist.	2264 Feb 06 16:28	17° \mathcal{O} 47'47	4.33359 AU	max. Earth dist.	2270 Jan 28 02:55	8° \approx 51'46	6.08551 AU
	2264 Feb 28 21:52	15° $\mathcal{R}\mathcal{O}$					
direct	2264 Apr 08 00:49	12° \mathcal{O} 40'44		conjunction	2270 Jan 29 06:24	9° \approx 08'03	0°-28'-17
	2264 May 17 15:50	15° \mathcal{O}		minimum elong	2270 Jan 29 06:23	9° \approx 08'02	0°28'19
	2264 Aug 10 04:07	0° \mathcal{P}		morning rise	2270 Feb 11 02:18	12° \approx 09'59	
evening set	2264 Aug 12 20:47	0° \mathcal{P} 34'53			2270 Feb 23 05:54	15° \approx	
					2270 May 17 02:35	0° \mathcal{H}	
conjunction	2264 Aug 26 06:20	3° \mathcal{P} 29'40	0°50'05	retrograde	2270 Jun 20 09:32	1° \mathcal{H} 49'04	
minimum elong	2264 Aug 26 06:17	3° \mathcal{P} 29'39	0°50'05		2270 Jul 24 19:11	30° $\mathcal{R}\approx$	
max. Earth dist.	2264 Aug 26 11:48	3° \mathcal{P} 32'40	6.38871 AU	opposition	2270 Aug 19 19:35	26° \approx 52'07	-1°-6'-43
morning rise	2264 Sep 08 13:40	6° \mathcal{P} 23'11		min. Earth dist.	2270 Aug 20 03:28	26° \approx 49'32	4.02418 AU
retrograde	2265 Jan 07 20:00	23° \mathcal{P} 27'33		direct	2270 Oct 18 04:48	21° \approx 57'57	
opposition	2265 Mar 09 01:15	18° \mathcal{P} 31'10	1°25'58		2270 Dec 31 04:06	0° \mathcal{H}	
min. Earth dist.	2265 Mar 09 06:42	18° \mathcal{P} 29'23	4.42884 AU	evening set	2271 Feb 20 13:01	11° \mathcal{H} 25'18	
direct	2265 May 10 00:32	13° \mathcal{P} 28'16					
	2265 Sep 08 20:05	0° \mathcal{A}		conjunction	2271 Mar 05 13:06	14° \mathcal{H} 33'25	0°-56'-33
evening set	2265 Sep 13 16:40	1° \mathcal{A} 02'15		minimum elong	2271 Mar 05 13:05	14° \mathcal{H} 33'24	0°56'34
				max. Earth dist.	2271 Mar 05 18:13	14° \mathcal{H} 36'31	5.97881 AU
conjunction	2265 Sep 26 18:57	3° \mathcal{A} 51'35	1°04'25	morning rise	2271 Mar 18 15:32	17° \mathcal{H} 43'00	
minimum elong	2265 Sep 26 18:56	3° \mathcal{A} 51'34	1°04'25		2271 May 13 04:09	0° Υ	
max. Earth dist.	2265 Sep 25 21:36	3° \mathcal{A} 40'03	6.45115 AU	retrograde	2271 Jul 28 14:51	8° Υ 13'58	
morning rise	2265 Oct 09 18:21	6° \mathcal{A} 39'31		opposition	2271 Sep 26 13:57	3° Υ 13'05	-1°-35'-24

min. Earth dist.	2271 Sep 25 23:41	3°♏17'51	3.95410 AU	evening set	2277 Sep 18 01:28	5°♎22'36	
	2271 Oct 22 22:44	30°♐♏		max. Earth dist.	2277 Sep 30 01:44	7°♎57'59	6.45197 AU
direct	2271 Nov 23 20:00	28°♐19'26					
	2271 Dec 25 11:12	0°♏		conjunction	2277 Oct 01 02:44	8°♎11'30	1°05'01
evening set	2272 Mar 28 09:40	18°♏03'48		minimum elong	2277 Oct 01 02:43	8°♎11'30	1°05'00
				morning rise	2277 Oct 14 01:16	10°♎59'03	
conjunction	2272 Apr 10 17:21	21°♏16'42	-1°-3'-39	retrograde	2278 Feb 11 04:40	27°♎43'59	
minimum elong	2272 Apr 10 17:22	21°♏16'42	1°03'40	opposition	2278 Apr 12 18:39	22°♎50'48	1°33'21
max. Earth dist.	2272 Apr 12 05:34	21°♏38'35	5.95130 AU	min. Earth dist.	2278 Apr 13 19:26	22°♎42'50	4.45178 AU
morning rise	2272 Apr 24 04:16	24°♏31'15		direct	2278 Jun 14 11:37	17°♎48'36	
	2272 May 17 13:07	0°♏			2278 Sep 23 09:52	0°♎	
	2272 Aug 24 22:50	15°♏		evening set	2278 Oct 18 19:35	5°♎20'37	
retrograde	2272 Sep 03 10:35	15°♏08'56		max. Earth dist.	2278 Oct 29 19:31	7°♎44'13	6.43145 AU
	2272 Sep 12 21:32	15°♐♏					
min. Earth dist.	2272 Oct 31 19:04	10°♏15'35	3.97358 AU	conjunction	2278 Oct 31 15:14	8°♎08'04	0°59'19
opposition	2272 Nov 02 02:52	10°♏04'47	-1°-26'-12	minimum elong	2278 Oct 31 15:15	8°♎08'05	0°59'19
direct	2272 Dec 29 23:23	5°♏09'27		morning rise	2278 Nov 13 08:23	10°♎54'26	
	2273 Mar 22 13:15	15°♏			2278 Dec 02 12:53	15°♎	
evening set	2273 May 04 23:26	24°♏42'58		retrograde	2279 Mar 14 02:16	27°♎52'03	
				opposition	2279 May 13 22:51	23°♎00'07	1°13'10
conjunction	2273 May 18 14:26	27°♏56'17	0°-45'-44	min. Earth dist.	2279 May 15 09:10	22°♎49'10	4.39566 AU
minimum elong	2273 May 18 14:29	27°♏56'19	0°45'44	direct	2279 Jul 15 13:57	17°♎59'28	
max. Earth dist.	2273 May 20 20:34	28°♏28'21	6.01510 AU		2279 Oct 22 13:13	0°♐	
	2273 May 27 07:43	0°♐		evening set	2279 Nov 18 12:10	5°♐46'58	
morning rise	2273 Jun 01 07:54	1°♐10'40		max. Earth dist.	2279 Nov 29 03:00	8°♐08'47	6.34372 AU
retrograde	2273 Oct 09 11:10	21°♐05'47					
min. Earth dist.	2273 Dec 06 14:19	16°♐12'38	4.07402 AU	conjunction	2279 Dec 01 04:48	8°♐36'36	0°37'12
opposition	2273 Dec 08 01:11	16°♐00'44	0°-43'-58	minimum elong	2279 Dec 01 04:50	8°♐36'37	0°37'11
direct	2274 Feb 04 12:03	11°♐02'28		morning rise	2279 Dec 13 19:45	11°♐25'41	
evening set	2274 Jun 10 20:49	0°♑03'31		retrograde	2280 Apr 14 17:26	29°♐02'58	
	2274 Jun 10 14:40	0°♑		opposition	2280 Jun 14 15:16	24°♐10'43	0°31'26
				min. Earth dist.	2280 Jun 16 03:03	23°♐59'18	4.28092 AU
conjunction	2274 Jun 24 14:58	3°♑12'23	0°-11'-18	direct	2280 Aug 15 13:57	19°♐12'19	
minimum elong	2274 Jun 24 14:58	3°♑12'24	0°11'20		2280 Nov 14 18:09	0°♑	
behind sun begin	2274 Jun 24 08:57	3°♑08'58		evening set	2280 Dec 19 01:25	7°♑29'40	
behind sun end	2274 Jun 24 21:00	3°♑15'50		max. Earth dist.	2280 Dec 29 21:17	9°♑58'54	6.21106 AU
max. Earth dist.	2274 Jun 26 18:54	3°♑42'09	6.14304 AU				
morning rise	2274 Jul 08 09:37	6°♑21'17		conjunction	2280 Dec 31 17:47	10°♑24'32	0°03'26
asc. node	2274 Oct 21 11:28	24°♑23'03		minimum elong	2280 Dec 31 17:48	10°♑24'32	0°03'26
retrograde	2274 Nov 12 02:01	25°♑08'30		behind sun begin	2280 Dec 31 09:53	10°♑20'00	
opposition	2275 Jan 10 18:44	20°♑05'25	0°11'17	behind sun end	2281 Jan 01 01:44	10°♑29'05	
min. Earth dist.	2275 Jan 09 15:30	20°♑14'37	4.21548 AU	morning rise	2281 Jan 13 10:07	13°♑19'37	
direct	2275 Mar 11 09:08	15°♑04'27		desc. node	2281 Feb 05 18:41	18°♑33'36	
	2275 Jun 30 06:29	0°♒			2281 Apr 13 15:10	0°♒	
evening set	2275 Jul 16 02:27	3°♒27'00		retrograde	2281 May 19 13:56	1°♒57'59	
					2281 Jun 24 18:58	30°♐♒	
conjunction	2275 Jul 29 17:38	6°♒28'23	0°25'32	opposition	2281 Jul 19 07:53	27°♑03'47	0°-22'-43
minimum elong	2275 Jul 29 17:36	6°♒28'22	0°25'31	min. Earth dist.	2281 Jul 20 08:32	26°♑55'50	4.13875 AU
max. Earth dist.	2275 Jul 30 22:53	6°♒44'37	6.28650 AU	direct	2281 Sep 17 23:49	22°♑07'50	
morning rise	2275 Aug 12 07:47	9°♒28'56			2281 Dec 01 11:06	0°♒	
	2275 Sep 07 01:24	15°♒		evening set	2282 Jan 21 06:24	11°♒03'22	
retrograde	2275 Dec 13 16:24	27°♒12'20		max. Earth dist.	2282 Feb 02 03:37	13°♒52'10	6.07185 AU
opposition	2276 Feb 11 14:47	22°♒12'45	0°59'33				
min. Earth dist.	2276 Feb 11 04:18	22°♒16'14	4.34877 AU	conjunction	2282 Feb 03 01:38	14°♒05'14	0°-33'-2
direct	2276 Apr 12 14:17	17°♒10'10		minimum elong	2282 Feb 03 01:37	14°♒05'13	0°33'03
	2276 Jul 24 14:16	0°♓			2282 Feb 06 21:51	15°♒	
evening set	2276 Aug 17 09:10	5°♓01'04		morning rise	2282 Feb 15 22:03	17°♒08'02	
					2282 Apr 16 22:19	0°♓	
conjunction	2276 Aug 30 17:53	7°♓55'02	0°53'04	retrograde	2282 Jun 25 15:39	6°♓54'04	
minimum elong	2276 Aug 30 17:51	7°♓55'01	0°53'04	opposition	2282 Aug 25 00:07	1°♓56'37	-1°-12'-27
max. Earth dist.	2276 Aug 30 20:22	7°♓56'23	6.39954 AU	min. Earth dist.	2282 Aug 25 05:34	1°♓54'50	4.01471 AU
morning rise	2276 Sep 13 00:00	10°♓47'39			2282 Sep 09 05:34	30°♐♓	
retrograde	2277 Jan 12 00:06	27°♓48'15		direct	2282 Oct 23 05:41	27°♒02'40	
opposition	2277 Mar 13 07:21	22°♓52'19	1°28'37		2282 Dec 05 05:55	0°♓	
min. Earth dist.	2277 Mar 13 14:30	22°♓49'59	4.43490 AU	evening set	2283 Feb 25 12:46	16°♓31'53	
direct	2277 May 14 08:23	17°♓49'26					
	2277 Aug 23 06:51	0°♔		conjunction	2283 Mar 10 13:33	19°♓40'34	0°-58'-57

minimum elong	2283 Mar 10 13:32	19° 4 40'33	0°58'58	morning rise	2288 Sep 17 09:40	15° 7 10'19	
max. Earth dist.	2283 Mar 10 21:47	19° 4 45'32	5.97421 AU		2288 Dec 09 20:06	0° 5	
morning rise	2283 Mar 23 17:09	22° 4 50'50		retrograde	2289 Jan 16 06:21	2° 5 08'03	
	2283 Apr 23 12:03	0° 7			2289 Feb 22 16:44	30° 8	
retrograde	2283 Aug 02 18:59	13° 7 23'57		opposition	2289 Mar 17 13:16	27° 7 12'34	1°30'43
opposition	2283 Oct 01 18:13	8° 7 22'34	-1°-36'-24	min. Earth dist.	2289 Mar 17 23:32	27° 7 09'13	4.43918 AU
min. Earth dist.	2283 Oct 01 00:28	8° 7 28'31	3.95513 AU	direct	2289 May 18 17:37	22° 7 09'42	
direct	2283 Nov 28 21:31	3° 7 28'48			2289 Aug 04 18:52	0° 5	
evening set	2284 Apr 02 12:06	23° 7 11'59		evening set	2289 Sep 22 09:30	9° 5 42'24	
				max. Earth dist.	2289 Oct 04 07:22	12° 5 16'34	6.45200 AU
conjunction	2284 Apr 15 20:51	26° 7 25'04	-1°-2'-34				
minimum elong	2284 Apr 15 20:52	26° 7 25'05	1°02'35	conjunction	2289 Oct 05 10:04	12° 5 31'00	1°05'13
max. Earth dist.	2284 Apr 17 11:57	26° 7 48'39	5.95772 AU	minimum elong	2289 Oct 05 10:03	12° 5 31'00	1°05'13
morning rise	2284 Apr 29 08:41	29° 7 39'45		morning rise	2289 Oct 18 07:37	15° 5 18'13	
	2284 Apr 30 18:37	0° 8			2290 Jan 09 12:58	0° 8	
	2284 Jul 11 07:07	15° 8		retrograde	2290 Feb 15 10:05	2° 8 03'33	
retrograde	2284 Sep 08 10:59	20° 8 13'23			2290 Mar 24 12:59	30° 8	
min. Earth dist.	2284 Nov 05 18:46	15° 8 19'48	3.98458 AU	opposition	2290 Apr 17 01:59	27° 5 10'35	1°31'55
opposition	2284 Nov 07 02:31	15° 8 09'00	-1°-22'-1	min. Earth dist.	2290 Apr 18 03:14	27° 5 02'28	4.44771 AU
	2284 Nov 08 04:58	15° 8		direct	2290 Jun 18 18:25	22° 5 08'33	
direct	2285 Jan 04 00:44	10° 8 13'19			2290 Sep 04 23:33	0° 8	
	2285 Feb 28 03:35	15° 8		evening set	2290 Oct 23 02:23	9° 8 41'44	
evening set	2285 May 10 00:54	29° 8 43'08		max. Earth dist.	2290 Nov 03 00:42	12° 8 04'46	6.42342 AU
	2285 May 11 05:38	0° 8					
conjunction	2285 May 23 16:44	2° 8 56'09	0°-41'-43	conjunction	2290 Nov 04 21:22	12° 8 29'14	0°57'05
minimum elong	2285 May 23 16:47	2° 8 56'11	0°41'43	minimum elong	2290 Nov 04 21:24	12° 8 29'15	0°57'05
max. Earth dist.	2285 May 26 00:10	3° 8 28'50	6.02974 AU	morning rise	2290 Nov 16 09:08	15° 8	
morning rise	2285 Jun 06 10:40	6° 8 10'04			2290 Nov 17 14:01	15° 8 15'43	
retrograde	2285 Oct 14 04:24	25° 8 57'03		retrograde	2291 Feb 07 12:15	0° 8	
min. Earth dist.	2285 Dec 11 07:34	21° 8 03'58	4.09074 AU		2291 Mar 18 13:34	2° 8 16'57	
opposition	2285 Dec 12 17:59	20° 8 52'15	0°-36'-45	opposition	2291 Apr 26 23:36	30° 8	
direct	2286 Feb 09 07:01	15° 8 53'38		min. Earth dist.	2291 May 18 09:59	27° 8 25'03	1°08'25
	2286 May 25 01:34	0° 8		direct	2291 May 19 21:41	27° 8 13'41	4.38383 AU
evening set	2286 Jun 15 18:23	4° 8 50'16			2291 Jul 20 00:45	22° 8 24'39	
				evening set	2291 Oct 03 20:48	0° 8	
conjunction	2286 Jun 29 12:22	7° 8 58'21	0°-6'-10	max. Earth dist.	2291 Nov 22 20:11	10° 8 14'59	
minimum elong	2286 Jun 29 12:22	7° 8 58'21	0°06'11		2291 Dec 03 09:43	12° 8 36'37	6.32874 AU
behind sun begin	2286 Jun 29 04:27	7° 8 53'51		conjunction	2291 Dec 05 12:34	13° 8 05'08	0°32'59
behind sun end	2286 Jun 29 20:17	8° 8 02'51		minimum elong	2291 Dec 05 12:36	13° 8 05'09	0°32'59
max. Earth dist.	2286 Jul 01 12:10	8° 8 25'38	6.16040 AU	morning rise	2291 Dec 18 03:35	15° 8 54'49	
morning rise	2286 Jul 13 06:56	11° 8 06'23			2292 Feb 29 12:41	0° 8	
asc. node	2286 Sep 02 02:04	21° 8 47'13		retrograde	2292 Apr 19 09:44	3° 8 38'51	
retrograde	2286 Nov 16 12:52	29° 8 45'25			2292 Jun 09 14:30	30° 8	
min. Earth dist.	2287 Jan 14 04:51	24° 8 51'08	4.23195 AU	opposition	2292 Jun 19 07:51	28° 8 46'21	0°24'18
opposition	2287 Jan 15 05:35	24° 8 42'47	0°18'36	min. Earth dist.	2292 Jun 20 18:06	28° 8 35'24	4.26350 AU
direct	2287 Mar 16 00:33	19° 8 41'32		direct	2292 Aug 20 02:13	23° 8 48'12	
	2287 Jun 12 18:23	0° 8			2292 Oct 25 15:50	0° 8	
evening set	2287 Jul 20 18:39	8° 8 00'30		desc. node	2292 Dec 16 20:35	10° 8 38'23	
				evening set	2292 Dec 23 13:17	12° 8 10'00	
conjunction	2287 Aug 03 09:21	11° 8 01'01	0°30'00	max. Earth dist.	2293 Jan 03 12:42	14° 8 41'51	6.19256 AU
minimum elong	2287 Aug 03 09:19	11° 8 01'00	0°30'00				
max. Earth dist.	2287 Aug 04 12:19	11° 8 15'57	6.30105 AU	conjunction	2293 Jan 05 05:58	15° 8 05'44	0°-1'-51
morning rise	2287 Aug 16 22:26	14° 8 00'33		minimum elong	2293 Jan 05 05:57	15° 8 05'43	0°01'52
	2287 Aug 21 11:03	15° 8		behind sun begin	2293 Jan 04 21:58	15° 8 01'07	
	2287 Nov 15 14:46	0° 8		behind sun end	2293 Jan 05 13:57	15° 8 10'20	
retrograde	2287 Dec 17 22:36	1° 8 37'59		morning rise	2293 Jan 17 22:31	18° 8 01'42	
	2288 Jan 19 02:09	30° 8			2293 Mar 15 22:29	0° 8	
opposition	2288 Feb 15 21:42	26° 8 38'59	1°04'49	retrograde	2293 May 24 14:52	6° 8 48'59	
min. Earth dist.	2288 Feb 15 12:59	26° 8 41'53	4.36054 AU	opposition	2293 Jul 24 07:10	1° 8 54'24	0°-30'-22
direct	2288 Apr 17 00:05	21° 8 36'22		min. Earth dist.	2293 Jul 25 06:34	1° 8 46'51	4.12042 AU
	2288 Jul 06 07:38	0° 8			2293 Aug 08 10:39	30° 8	
evening set	2288 Aug 21 20:51	9° 8 25'11		direct	2293 Sep 22 18:57	26° 8 58'45	
					2293 Nov 06 01:46	0° 8	
conjunction	2288 Sep 04 04:26	12° 8 18'25	0°55'41		2294 Jan 21 20:03	15° 8	
minimum elong	2288 Sep 04 04:24	12° 8 18'24	0°55'41	evening set	2294 Jan 26 00:29	15° 8 59'11	
max. Earth dist.	2288 Sep 04 01:55	12° 8 17'02	6.40767 AU				

conjunction	2294 Feb 07 20:12	19° 30 02'00	0°-37'-34	max. Earth dist.	2299 Aug 09 02:01	15° 05 51'08	6.32012 AU
minimum elong	2294 Feb 07 20:10	19° 30 01'59	0°37'34	morning rise	2299 Aug 21 15:18	18° 05 36'50	
max. Earth dist.	2294 Feb 07 00:24	18° 30 50'13	6.05521 AU		2299 Oct 17 17:42	0° 00	
morning rise	2294 Feb 20 17:34	22° 30 05'54		retrograde	2299 Dec 22 05:41	6° 00 06'32	
	2294 Mar 27 10:47	0° 00		opposition	2300 Feb 20 06:16	1° 00 08'00	1°09'47
retrograde	2294 Jun 30 19:53	12° 00 00'12		min. Earth dist.	2300 Feb 19 23:51	1° 00 10'07	4.37781 AU
opposition	2294 Aug 30 04:20	7° 00 02'11	-1°-17'-44		2300 Feb 28 21:45	30° 00 R 00	
min. Earth dist.	2294 Aug 30 05:54	7° 00 01'40	4.00155 AU	direct	2300 Apr 22 12:56	26° 00 05'16	
direct	2294 Oct 28 04:59	2° 00 08'20			2300 Jun 14 05:24	0° 00	
evening set	2295 Mar 02 13:32	21° 00 41'09		evening set	2300 Aug 27 08:34	13° 00 09'44	
conjunction	2295 Mar 15 15:23	24° 00 50'40	-1°00'-57	conjunction	2300 Sep 09 15:12	16° 00 09'41'57	0°58'01
minimum elong	2295 Mar 15 15:22	24° 00 50'40	1°00'58	minimum elong	2300 Sep 09 15:10	16° 00 09'41'56	0°58'01
max. Earth dist.	2295 Mar 16 04:27	24° 00 58'35	5.96572 AU	max. Earth dist.	2300 Sep 09 10:58	16° 00 09'39'39	6.42198 AU
morning rise	2295 Mar 28 20:00	28° 00 01'48		morning rise	2300 Sep 22 19:02	19° 00 09'32'46	
	2295 Apr 06 02:03	0° 00 Y			2300 Nov 14 14:36	0° 00 Δ	
retrograde	2295 Aug 08 02:38	18° 00 Y38'34		retrograde	2301 Jan 21 09:33	6° 00 Δ25'40	
opposition	2295 Oct 06 23:46	13° 00 Y36'37	-1°-36'-43	opposition	2301 Mar 22 18:50	1° 00 Δ30'35	1°32'18
min. Earth dist.	2295 Oct 06 04:26	13° 00 Y43'07	3.95231 AU	min. Earth dist.	2301 Mar 23 06:34	1° 00 Δ26'47	4.44966 AU
direct	2295 Dec 04 01:56	8° 00 Y42'38			2301 Apr 03 14:31	30° 00 R 00	
evening set	2296 Apr 07 17:06	28° 00 Y26'14		direct	2301 May 24 01:41	26° 00 09'27'50	
	2296 Apr 14 05:20	0° 00 ⋈			2301 Jul 13 13:11	0° 00 Δ	
conjunction	2296 Apr 21 03:05	1° 00 ⋈39'44	-1°00'-59	evening set	2301 Sep 27 16:05	13° 00 Δ57'49	
minimum elong	2296 Apr 21 03:06	1° 00 ⋈39'45	1°01'01	max. Earth dist.	2301 Oct 09 08:40	16° 00 Δ29'06	6.45773 AU
max. Earth dist.	2296 Apr 22 22:10	2° 00 ⋈05'40	5.96080 AU	conjunction	2301 Oct 10 15:28	16° 00 Δ45'45	1°05'06
morning rise	2296 May 04 16:01	4° 00 ⋈54'45		minimum elong	2301 Oct 10 15:28	16° 00 Δ45'45	1°05'06
	2296 Jun 18 09:36	15° 00 ⋈		morning rise	2301 Oct 23 12:13	19° 00 Δ32'25	
retrograde	2296 Sep 13 14:11	25° 00 ⋈25'08			2301 Dec 15 12:11	0° 00 ℳ	
min. Earth dist.	2296 Nov 10 19:34	20° 00 ⋈31'49	3.99332 AU	retrograde	2302 Feb 20 15:08	6° 00 ℳ16'31	
opposition	2296 Nov 12 04:43	20° 00 ⋈20'33	-1°-17'-7	opposition	2302 Apr 22 07:18	1° 00 ℳ23'47	1°30'00
direct	2297 Jan 09 02:55	15° 00 ⋈24'30		min. Earth dist.	2302 Apr 23 11:23	1° 00 ℳ14'47	4.44826 AU
	2297 Apr 24 02:34	0° 00 ♊			2302 May 03 08:13	30° 00 R 00 Δ	
evening set	2297 May 15 05:56	4° 00 ♊51'25		direct	2302 Jun 24 01:57	26° 00 Δ21'53	
conjunction	2297 May 28 22:19	8° 00 ♊04'06	0°-37'-16		2302 Aug 14 07:33	0° 00 ℳ	
minimum elong	2297 May 28 22:21	8° 00 ♊04'07	0°37'17	evening set	2302 Oct 28 06:04	13° 00 ℳ54'46	
max. Earth dist.	2297 May 31 04:51	8° 00 ♊36'08	6.04320 AU	max. Earth dist.	2302 Nov 02 05:48	15° 00 ℳ	
morning rise	2297 Jun 11 16:54	11° 00 ♊17'37			2302 Nov 08 02:05	16° 00 ℳ16'45	6.41859 AU
	2297 Sep 24 22:16	0° 00 ♊		conjunction	2302 Nov 10 00:35	16° 00 ℳ42'15	0°54'38
retrograde	2297 Oct 18 23:55	0° 00 ♊56'37		minimum elong	2302 Nov 10 00:37	16° 00 ℳ42'16	0°54'37
	2297 Nov 11 21:21	30° 00 R 00 ♊		morning rise	2302 Nov 22 16:40	19° 00 ℳ28'44	
min. Earth dist.	2297 Dec 16 04:05	26° 00 ♊03'30	4.10746 AU		2303 Jan 14 03:45	0° 00 ♊	
opposition	2297 Dec 17 13:59	25° 00 ♊51'57	0°-29'-3	retrograde	2303 Mar 23 19:43	6° 00 ♊32'53	
direct	2298 Feb 14 06:47	20° 00 ♊52'55		opposition	2303 May 23 17:50	1° 00 ♊40'59	1°03'26
	2298 May 06 04:35	0° 00 ♊		min. Earth dist.	2303 May 25 05:37	1° 00 ♊29'35	4.37373 AU
evening set	2298 Jun 20 19:23	9° 00 ♊44'53			2303 Jun 06 05:21	30° 00 R 00 ℳ	
conjunction	2298 Jul 04 13:23	12° 00 ♊52'06	0°00'-46	direct	2303 Jul 25 05:55	26° 00 ℳ40'49	
minimum elong	2298 Jul 04 13:23	12° 00 ♊52'06	0°00'47		2303 Sep 11 15:20	0° 00 ♊	
behind sun begin	2298 Jul 04 05:00	12° 00 ♊47'22		evening set	2303 Nov 28 00:36	14° 00 ♊33'42	
behind sun end	2298 Jul 04 21:45	12° 00 ♊56'50		max. Earth dist.	2303 Dec 08 14:06	16° 00 ♊55'49	6.31405 AU
max. Earth dist.	2298 Jul 06 12:38	13° 00 ♊18'58	6.17942 AU	conjunction	2303 Dec 10 16:47	17° 00 ♊24'21	0°28'44
asc. node	2298 Jul 12 13:02	14° 00 ♊40'56		minimum elong	2303 Dec 10 16:48	17° 00 ♊24'22	0°28'45
morning rise	2298 Jul 18 07:21	15° 00 ♊59'03		morning rise	2303 Dec 23 07:46	20° 00 ♊14'37	
	2298 Sep 27 05:50	0° 00 ♊			2304 Feb 07 21:55	0° 00 ♊	
retrograde	2298 Nov 21 02:27	4° 00 ♊28'53		retrograde	2304 Apr 25 00:56	8° 00 ♊05'49	
	2299 Jan 15 16:01	30° 00 R 00 ♊		opposition	2304 Jun 24 21:22	3° 00 ♊13'10	0°17'14
opposition	2299 Jan 19 19:07	29° 00 ♊26'44	0°26'01	min. Earth dist.	2304 Jun 26 08:30	3° 00 ♊01'56	4.24474 AU
min. Earth dist.	2299 Jan 18 19:55	29° 00 ♊34'32	4.25167 AU		2304 Jul 22 07:58	30° 00 R 00 ♊	
direct	2299 Mar 20 18:25	24° 00 ♊25'17		direct	2304 Aug 25 13:10	28° 00 ♊15'18	
	2299 May 22 11:18	0° 00 ♊			2304 Sep 28 11:37	0° 00 ♊	
evening set	2299 Jul 25 13:25	12° 00 ♊39'10		desc. node	2304 Oct 29 17:53	4° 00 ♊15'36	
	2299 Aug 05 05:19	15° 00 ♊		evening set	2304 Dec 28 22:17	16° 00 ♊42'24	
conjunction	2299 Aug 08 03:06	15° 00 ♊38'30	0°34'25	max. Earth dist.	2305 Jan 08 22:02	19° 00 ♊15'11	6.17126 AU
minimum elong	2299 Aug 08 03:04	15° 00 ♊38'29	0°34'25	conjunction	2305 Jan 10 15:12	19° 00 ♊39'07	0°-6'-52

minimum elong	2305 Jan 10 15:11	19°  39'06	0°06'54	max. Earth dist.	2310 Jul 12 12:09	18°  14'31	6.20025 AU
behind sun begin	2305 Jan 10 07:45	19°  34'48		morning rise	2310 Jul 24 08:46	20°  54'54	
behind sun end	2305 Jan 10 22:38	19°  43'25			2310 Sep 05 05:39	0° 	
morning rise	2305 Jan 23 08:21	22°  36'13		retrograde	2310 Nov 26 14:15	9°  14'48	
	2305 Feb 25 13:42	0° 		min. Earth dist.	2311 Jan 24 11:24	4°  12'019	4.27266 AU
retrograde	2305 May 30 11:48	11°  33'48		opposition	2311 Jan 25 09:16	4°  12'59	0°33'18
opposition	2305 Jul 30 03:46	6°  38'50	0°-37'-39		2311 Mar 04 00:53	30°  R 	
min. Earth dist.	2305 Jul 31 00:28	6°  32'08	4.09822 AU	direct	2311 Mar 26 12:42	29°  11'12	
direct	2305 Sep 28 09:17	1°  43'29			2311 Apr 18 08:15	0° 	
	2306 Jan 06 10:09	15° 			2311 Jul 20 14:35	15° 	
evening set	2306 Jan 31 17:15	20°  50'49		evening set	2311 Jul 31 08:16	17°  19'33	
conjunction	2306 Feb 13 13:45	23°  54'54	0°-41'-44	conjunction	2311 Aug 13 21:04	20°  17'40	0°38'40
minimum elong	2306 Feb 13 13:43	23°  54'53	0°41'44	minimum elong	2311 Aug 13 21:02	20°  17'39	0°38'40
max. Earth dist.	2306 Feb 12 21:59	23°  45'28	6.03415 AU	max. Earth dist.	2311 Aug 14 16:52	20°  128'33	6.33942 AU
morning rise	2306 Feb 26 11:58	27°  00'08		morning rise	2311 Aug 27 07:59	23°  14'40	
	2306 Mar 11 05:39	0° 			2311 Sep 28 11:49	0° 	
retrograde	2306 Jul 07 03:00	17°  X  04'45		retrograde	2311 Dec 27 13:41	10°  17'36'51	
opposition	2306 Sep 05 07:53	12°  X  06'15	-1°-22'-23	opposition	2312 Feb 25 15:17	5°  17'38'48	1°14'24
min. Earth dist.	2306 Sep 05 07:31	12°  X  06'22	3.98367 AU	min. Earth dist.	2312 Feb 25 11:36	5°  17'40'01	4.39382 AU
direct	2306 Nov 03 04:50	7°  X  12'30		direct	2312 Apr 27 02:42	0°  17'36'00	
evening set	2307 Mar 08 14:42	26°  X  51'03		evening set	2312 Aug 31 20:58	18°  17'16'39	
conjunction	2307 Mar 21 17:48	0°  Y  01'45	-1°-2'-26	conjunction	2312 Sep 14 02:22	21°  17'07'58	1°00'05
minimum elong	2307 Mar 21 17:47	0°  Y  01'44	1°02'26	minimum elong	2312 Sep 14 02:21	21°  17'07'57	1°00'04
	2307 Mar 21 14:55	0°  Y 		max. Earth dist.	2312 Sep 13 16:58	21°  17'02'53	6.43322 AU
max. Earth dist.	2307 Mar 22 11:32	0°  Y  12'30	5.95280 AU	morning rise	2312 Sep 27 05:11	23°  17'57'54	
morning rise	2307 Apr 03 23:44	3°  Y  14'04			2312 Oct 26 05:25	0° 	
retrograde	2307 Aug 14 11:05	23°  Y  56'02		retrograde	2313 Jan 25 15:33	10°  17'47'12	
min. Earth dist.	2307 Oct 12 07:38	19°  Y  01'14	3.94611 AU	opposition	2313 Mar 27 01:51	5°  17'52'28	1°33'28
opposition	2307 Oct 13 06:08	18°  Y  53'40	-1°-36'-14	min. Earth dist.	2313 Mar 27 16:28	5°  17'47'43	4.45565 AU
direct	2307 Dec 10 04:19	13°  Y  59'35		direct	2313 May 28 11:32	0°  17'49'42	
	2308 Mar 29 03:23	0°  X 		evening set	2313 Oct 02 00:06	18°  17'48'30	
evening set	2308 Apr 14 00:13	3°  X  45'00		conjunction	2313 Oct 14 22:47	21°  17'48'07	1°04'38
conjunction	2308 Apr 27 11:15	6°  X  59'00	0°-58'-52	minimum elong	2313 Oct 14 22:48	21°  17'48'07	1°04'39
minimum elong	2308 Apr 27 11:17	6°  X  59'01	0°58'52	max. Earth dist.	2313 Oct 13 14:09	20°  17'48'27	6.45794 AU
max. Earth dist.	2308 Apr 29 08:33	7°  X  26'15	5.96175 AU	morning rise	2313 Oct 27 18:32	23°  17'52'25	
morning rise	2308 May 11 01:28	10°  X  14'30			2313 Nov 26 04:58	0° 	
	2308 May 31 09:21	15°  X 		retrograde	2314 Feb 24 21:37	10°  17'37'16	
	2308 Aug 30 02:08	0°  II 		opposition	2314 Apr 26 15:43	5°  17'44'43	1°27'37
retrograde	2308 Sep 19 18:02	0°  II  42'06		min. Earth dist.	2314 Apr 27 21:00	5°  17'35'21	4.44274 AU
	2308 Oct 10 07:30	30°  R  X 		direct	2314 Jun 28 09:44	0°  17'43'00	
min. Earth dist.	2308 Nov 16 21:33	25°  X  49'07	4.00120 AU		2314 Oct 17 05:17	15°  17'37'16	
opposition	2308 Nov 18 08:20	25°  X  37'15	-1°-11'-30	evening set	2314 Nov 01 13:16	18°  17'37'28	
direct	2309 Jan 15 07:53	20°  X  40'47		max. Earth dist.	2314 Nov 12 06:12	20°  17'38'13	6.40763 AU
	2309 Apr 05 18:27	0°  II 		conjunction	2314 Nov 14 07:08	21°  17'38'05'08	0°51'47
evening set	2309 May 21 13:10	10°  II  05'00		minimum elong	2314 Nov 14 07:10	21°  17'38'05'09	0°51'47
conjunction	2309 Jun 04 06:21	13°  II  17'20	0°-32'-27	morning rise	2314 Nov 26 22:59	23°  17'51'57	
minimum elong	2309 Jun 04 06:23	13°  II  17'22	0°32'28		2314 Dec 25 22:03	0° 	
max. Earth dist.	2309 Jun 06 15:05	13°  II  50'33	6.05738 AU	retrograde	2315 Mar 28 09:58	11°  17'47'01'09	
morning rise	2309 Jun 18 01:07	16°  II  30'18		opposition	2315 May 28 07:03	6°  17'47'09'13	0°57'54
	2309 Aug 21 20:17	0°  S 		min. Earth dist.	2315 May 29 20:29	5°  17'47'57'18	4.35783 AU
retrograde	2309 Oct 24 22:16	6°  S  00'32		direct	2315 Jul 29 18:14	1°  17'47'09'17	
min. Earth dist.	2309 Dec 22 02:10	1°  S  07'16	4.12594 AU	evening set	2315 Dec 02 10:23	19°  17'47'06'27	
opposition	2309 Dec 23 11:14	0°  S  56'01	0°-21'-2	max. Earth dist.	2315 Dec 12 23:59	21°  17'47'29'14	6.29449 AU
	2309 Dec 30 08:54	30°  R  II 		conjunction	2315 Dec 15 02:37	21°  17'47'57'51	0°24'06
direct	2310 Feb 20 07:59	25°  II  56'33		minimum elong	2315 Dec 15 02:38	21°  17'47'57'52	0°24'06
	2310 Apr 12 22:47	0°  S 		morning rise	2315 Dec 27 17:41	24°  17'48'58	
asc. node	2310 May 22 00:17	6°  S  56'52			2316 Jan 20 07:57	0° 	
evening set	2310 Jun 26 21:39	14°  S  42'59		retrograde	2316 Apr 29 20:16	12°  17'48'54	
conjunction	2310 Jul 10 15:14	17°  S  49'08	0°04'44	opposition	2316 Jun 29 17:27	7°  17'48'56'00	0°09'37
minimum elong	2310 Jul 10 15:14	17°  S  49'07	0°04'45	min. Earth dist.	2316 Jul 01 02:37	7°  17'48'45'22	4.22286 AU
behind sun begin	2310 Jul 10 07:04	17°  S  44'32		direct	2316 Aug 30 03:47	2°  17'48'58'29	
behind sun end	2310 Jul 10 23:23	17°  S  53'43		desc. node	2316 Sep 07 21:53	3°  17'48'05'39	

evening set	2317 Jan 02 14:00	21°☾31'44		conjunction	2322 Jul 15 13:14	22°☾36'01	0°09'56
max. Earth dist.	2317 Jan 13 17:07	24°☾07'14	6.14895 AU	minimum elong	2322 Jul 15 13:13	22°☾36'00	0°09'56
				behind sun begin	2322 Jul 15 06:32	22°☾32'16	
conjunction	2317 Jan 15 07:14	24°☾29'31	0°-12'-9	behind sun end	2322 Jul 15 19:54	22°☾39'45	
minimum elong	2317 Jan 15 07:13	24°☾29'30	0°12'09	max. Earth dist.	2322 Jul 17 06:36	22°☾59'18	6.22366 AU
behind sun begin	2317 Jan 15 01:44	24°☾26'18		morning rise	2322 Jul 29 05:59	25°☾40'25	
behind sun end	2317 Jan 15 12:43	24°☾32'42			2322 Aug 18 00:09	0°♌	
morning rise	2317 Jan 28 00:56	27°☾27'48		retrograde	2322 Dec 01 00:40	13°♌50'21	
	2317 Feb 08 01:15	0°♌		opposition	2323 Jan 29 19:50	8°♌49'05	0°40'06
	2317 May 03 12:35	15°♌		min. Earth dist.	2323 Jan 29 01:15	8°♌55'18	4.29403 AU
retrograde	2317 Jun 04 18:24	16°♌36'02		direct	2323 Mar 31 04:55	3°♌47'06	
	2317 Jul 07 02:11	15°♌			2323 Jul 03 10:01	15°♌	
opposition	2317 Aug 04 07:58	11°♌40'40	0°-45'-9	evening set	2323 Aug 04 23:15	21°♌50'14	
min. Earth dist.	2317 Aug 05 02:50	11°♌34'33	4.07731 AU				
direct	2317 Oct 03 09:41	6°♌45'37		conjunction	2323 Aug 18 11:07	24°♌47'15	0°42'32
	2317 Dec 18 01:00	15°♌		minimum elong	2323 Aug 18 11:05	24°♌47'14	0°42'32
evening set	2318 Feb 05 16:39	25°♌58'56		max. Earth dist.	2323 Aug 19 02:36	24°♌55'43	6.35701 AU
				morning rise	2323 Aug 31 20:57	27°♌43'05	
conjunction	2318 Feb 18 13:59	29°♌04'09	0°-45'-51		2323 Sep 11 11:04	0°♍	
minimum elong	2318 Feb 18 13:57	29°♌04'08	0°45'53	retrograde	2323 Dec 31 17:37	14°♍58'57	
max. Earth dist.	2318 Feb 18 02:48	28°♌57'27	6.01674 AU	opposition	2324 Feb 29 21:24	10°♍01'26	1°18'29
	2318 Feb 22 11:02	0°♋		min. Earth dist.	2324 Feb 29 20:04	10°♍01'52	4.40668 AU
morning rise	2318 Mar 03 13:12	2°♋10'36		direct	2324 May 01 11:50	4°♍58'35	
retrograde	2318 Jul 12 13:50	22°♋23'31		evening set	2324 Sep 05 06:10	22°♍36'43	
opposition	2318 Sep 10 17:13	17°♋24'31	-1°-26'-39				
min. Earth dist.	2318 Sep 10 12:49	17°♋25'58	3.97214 AU	conjunction	2324 Sep 18 10:37	25°♍27'21	1°01'45
direct	2318 Nov 08 08:50	12°♋30'56		minimum elong	2324 Sep 18 10:36	25°♍27'20	1°01'45
	2319 Mar 04 15:56	0°♎		max. Earth dist.	2324 Sep 17 21:39	25°♍20'20	6.44040 AU
evening set	2319 Mar 13 21:11	2°♎12'27		morning rise	2324 Oct 01 12:18	28°♍16'35	
					2324 Oct 09 14:09	0°♎	
conjunction	2319 Mar 27 01:15	5°♎23'50	-1°-3'-31	retrograde	2325 Jan 29 20:11	15°♎04'03	
minimum elong	2319 Mar 27 01:14	5°♎23'49	1°03'31	opposition	2325 Mar 31 07:23	10°♎09'46	1°34'09
max. Earth dist.	2319 Mar 27 23:11	5°♎37'08	5.94823 AU	min. Earth dist.	2325 Apr 01 00:47	10°♎04'09	4.45687 AU
morning rise	2319 Apr 09 08:27	8°♎36'54		direct	2325 Jun 01 19:11	5°♎07'11	
retrograde	2319 Aug 19 19:46	29°♎19'59		evening set	2325 Oct 06 06:45	22°♎36'24	
opposition	2319 Oct 18 14:55	24°♎17'05	-1°-34'-57	max. Earth dist.	2325 Oct 17 15:26	25°♎03'46	6.45296 AU
min. Earth dist.	2319 Oct 17 13:23	24°♎25'43	3.94933 AU				
direct	2319 Dec 15 12:23	19°♎22'45		conjunction	2325 Oct 19 04:34	25°♎23'54	1°03'51
	2320 Mar 10 09:56	0°♏		minimum elong	2325 Oct 19 04:35	25°♎23'54	1°03'50
evening set	2320 Apr 19 08:52	9°♏06'12		morning rise	2325 Oct 31 23:48	28°♎10'10	
					2325 Nov 09 12:53	0°♏	
conjunction	2320 May 02 21:07	12°♏20'13	0°-56'-17	retrograde	2326 Mar 01 06:25	14°♏57'38	
minimum elong	2320 May 02 21:09	12°♏20'15	0°56'18	opposition	2326 May 01 00:11	10°♏05'17	1°24'49
max. Earth dist.	2320 May 04 23:00	12°♏50'07	5.97250 AU	min. Earth dist.	2326 May 02 07:34	9°♏55'15	4.43204 AU
	2320 May 14 00:15	15°♏		direct	2326 Jul 02 18:14	5°♏03'47	
morning rise	2320 May 16 12:05	15°♏35'35			2326 Sep 29 21:34	15°♏	
	2320 Jul 23 11:08	0°♐		evening set	2326 Nov 05 20:30	22°♏41'33	
retrograde	2320 Sep 24 22:06	5°♐56'09		max. Earth dist.	2326 Nov 16 13:17	25°♏02'43	6.39209 AU
min. Earth dist.	2320 Nov 22 00:10	1°♐03'05	4.01810 AU				
opposition	2320 Nov 23 11:08	0°♐51'10	-1°-5'-24	conjunction	2326 Nov 18 14:12	25°♏29'43	0°48'40
	2320 Nov 29 18:00	30°♑		minimum elong	2326 Nov 18 14:14	25°♏29'44	0°48'41
direct	2321 Jan 20 13:26	25°♑54'18		morning rise	2326 Dec 01 05:40	28°♏17'02	
	2321 Mar 12 12:43	0°♒			2326 Dec 09 02:21	0°♑	
evening set	2321 May 26 18:30	15°♒12'36		retrograde	2327 Apr 01 23:32	15°♑32'54	
				opposition	2327 Jun 01 21:30	10°♑40'58	0°52'00
conjunction	2321 Jun 09 11:56	18°♒24'07	0°-27'-31	min. Earth dist.	2327 Jun 03 10:24	10°♑29'13	4.33845 AU
minimum elong	2321 Jun 09 11:58	18°♒24'08	0°27'31	direct	2327 Aug 03 05:06	5°♑41'26	
max. Earth dist.	2321 Jun 11 20:08	18°♒56'50	6.07863 AU	evening set	2327 Dec 06 21:36	23°♑43'57	
morning rise	2321 Jun 23 06:58	21°♒36'09		max. Earth dist.	2327 Dec 17 11:51	26°♑07'53	6.27285 AU
	2321 Jul 31 09:38	0°♓					
retrograde	2321 Oct 29 14:03	10°♓55'28		conjunction	2327 Dec 19 13:44	26°♑36'13	0°19'16
min. Earth dist.	2321 Dec 26 20:28	6°♓02'19	4.14923 AU	minimum elong	2327 Dec 19 13:45	26°♑36'14	0°19'15
opposition	2321 Dec 28 05:14	5°♓51'11	0°-13'-8	morning rise	2328 Jan 01 05:08	29°♑28'21	
direct	2322 Feb 25 05:24	0°♓51'21			2328 Jan 03 13:15	0°♑	
asc. node	2322 Mar 31 18:28	2°♓44'36		retrograde	2328 May 04 20:27	17°♑37'58	
evening set	2322 Jul 01 20:06	19°♓31'07		opposition	2328 Jul 04 16:04	12°♑44'48	0°01'50
				min. Earth dist.	2328 Jul 06 00:07	12°♑34'32	4.20037 AU

desc. node	2328 Jul 17 22:05	11°♄04'46		conjunction	2334 Jul 20 09:33	27°♄18'54	0°15'01
direct	2328 Sep 03 23:05	7°♄47'41		minimum elong	2334 Jul 20 09:32	27°♄18'53	0°15'02
evening set	2329 Jan 07 07:35	26°♄27'03		behind sun begin	2334 Jul 20 06:57	27°♄17'27	
max. Earth dist.	2329 Jan 18 15:01	29°♄05'47	6.12776 AU	behind sun end	2334 Jul 20 12:07	27°♄20'19	
				max. Earth dist.	2334 Jul 22 00:23	27°♄40'38	6.24392 AU
conjunction	2329 Jan 20 01:21	29°♄25'55	0°-17'-24		2334 Aug 01 09:47	0°♂	
minimum elong	2329 Jan 20 01:20	29°♄25'54	0°17'25	morning rise	2334 Aug 03 01:31	0°♂22'05	
	2329 Jan 22 11:26	0°♂			2334 Oct 19 01:07	15°♂	
morning rise	2329 Feb 01 19:37	2°♂25'22		retrograde	2334 Dec 05 08:10	18°♂23'21	
	2329 Apr 02 03:22	15°♂			2335 Jan 21 20:33	15°♂♂	
retrograde	2329 Jun 10 00:57	21°♂43'32		opposition	2335 Feb 03 05:25	13°♂22'34	0°46'36
opposition	2329 Aug 09 13:37	16°♂47'44	0°-52'-23	min. Earth dist.	2335 Feb 02 12:24	13°♂28'15	4.31186 AU
min. Earth dist.	2329 Aug 10 04:45	16°♂42'49	4.05950 AU	direct	2335 Apr 04 18:04	8°♂20'24	
	2329 Aug 23 16:33	15°♂♂			2335 Jun 13 15:37	15°♂	
direct	2329 Oct 08 09:34	11°♂53'01		evening set	2335 Aug 09 13:40	26°♂19'29	
	2329 Nov 22 00:08	15°♂					
	2330 Feb 05 18:17	0°♂		conjunction	2335 Aug 23 00:28	29°♂15'29	0°46'09
evening set	2330 Feb 10 17:38	1°♂11'00		minimum elong	2335 Aug 23 00:26	29°♂15'28	0°46'08
				max. Earth dist.	2335 Aug 23 10:50	29°♂21'09	6.37106 AU
conjunction	2330 Feb 23 15:37	4°♂17'06	0°-49'-38		2335 Aug 26 09:55	0°♂♂	
minimum elong	2330 Feb 23 15:34	4°♂17'04	0°49'39	morning rise	2335 Sep 05 09:15	2°♂10'18	
max. Earth dist.	2330 Feb 23 08:45	4°♂12'58	6.00383 AU	retrograde	2336 Jan 05 00:08	19°♂21'04	
morning rise	2330 Mar 08 15:52	7°♂24'33		opposition	2336 Mar 05 03:56	14°♂24'04	1°22'07
retrograde	2330 Jul 17 23:27	27°♂43'37		min. Earth dist.	2336 Mar 05 06:15	14°♂23'18	4.41618 AU
opposition	2330 Sep 16 02:20	22°♂43'57	-1°-30'-8	direct	2336 May 05 22:55	9°♂21'10	
min. Earth dist.	2330 Sep 15 18:16	22°♂46'38	3.96554 AU	evening set	2336 Sep 09 15:54	26°♂57'40	
direct	2330 Nov 13 14:38	17°♂50'20					
	2331 Feb 14 16:37	0°♂		conjunction	2336 Sep 22 19:26	29°♂47'45	1°03'06
evening set	2331 Mar 19 03:03	7°♂32'51		minimum elong	2336 Sep 22 19:25	29°♂47'44	1°03'06
				max. Earth dist.	2336 Sep 22 02:27	29°♂38'34	6.44452 AU
conjunction	2331 Apr 01 08:22	10°♂44'45	-1°-4'-3		2336 Sep 23 18:06	0°♂	
minimum elong	2331 Apr 01 08:22	10°♂44'45	1°04'04	morning rise	2336 Oct 05 20:07	2°♂36'26	
max. Earth dist.	2331 Apr 02 12:26	11°♂01'45	5.94846 AU	retrograde	2337 Feb 03 01:23	19°♂22'53	
morning rise	2331 Apr 14 16:33	13°♂58'16		opposition	2337 Apr 04 13:58	14°♂28'56	1°34'20
	2331 Jun 30 10:54	0°♂		min. Earth dist.	2337 Apr 05 09:13	14°♂22'43	4.45571 AU
retrograde	2331 Aug 25 04:35	4°♂40'11		direct	2337 Jun 06 02:45	9°♂26'25	
	2331 Oct 21 01:15	30°♂♂		evening set	2337 Oct 10 14:25	26°♂56'36	
opposition	2331 Oct 23 21:48	29°♂36'50	-1°-32'-51	max. Earth dist.	2337 Oct 21 21:19	29°♂23'16	6.44664 AU
min. Earth dist.	2331 Oct 22 18:49	29°♂45'58	3.95644 AU				
direct	2331 Dec 20 19:22	24°♂42'14		conjunction	2337 Oct 23 11:37	29°♂44'05	1°02'42
	2332 Feb 16 20:45	0°♂		minimum elong	2337 Oct 23 11:38	29°♂44'05	1°02'41
evening set	2332 Apr 24 15:42	14°♂22'26			2337 Oct 24 16:54	0°♂♂	
	2332 Apr 27 06:53	15°♂		morning rise	2337 Nov 05 06:04	2°♂30'21	
					2338 Jan 09 18:31	15°♂	
conjunction	2332 May 08 04:44	17°♂36'14	0°-53'-18	retrograde	2338 Mar 05 15:46	19°♂20'47	
minimum elong	2332 May 08 04:47	17°♂36'15	0°53'18		2338 May 01 07:53	15°♂♂	
max. Earth dist.	2332 May 10 08:00	18°♂06'49	5.98548 AU	opposition	2338 May 05 10:20	14°♂28'39	1°21'29
morning rise	2332 May 21 20:40	20°♂51'21		min. Earth dist.	2338 May 06 19:01	14°♂18'14	4.42106 AU
	2332 Jul 01 10:54	0°♂		direct	2338 Jul 07 04:03	9°♂27'28	
retrograde	2332 Sep 29 20:40	11°♂04'04			2338 Sep 09 06:45	15°♂	
min. Earth dist.	2332 Nov 26 22:48	6°♂11'18	4.03558 AU	evening set	2338 Nov 10 05:04	27°♂08'19	
opposition	2332 Nov 28 10:52	5°♂59'00	0°-58'-54	max. Earth dist.	2338 Nov 20 19:36	29°♂28'51	6.37732 AU
direct	2333 Jan 25 14:32	1°♂01'42					
evening set	2333 May 31 21:40	20°♂14'23		conjunction	2338 Nov 22 22:16	29°♂56'55	0°45'14
				minimum elong	2338 Nov 22 22:18	29°♂56'56	0°45'14
conjunction	2333 Jun 14 15:22	23°♂25'05	0°-22'-27		2338 Nov 23 03:50	0°♂♂	
minimum elong	2333 Jun 14 15:24	23°♂25'06	0°22'28	morning rise	2338 Dec 05 13:42	2°♂44'48	
max. Earth dist.	2333 Jun 16 21:38	23°♂56'31	6.09907 AU	retrograde	2339 Apr 06 15:55	20°♂07'07	
morning rise	2333 Jun 28 10:23	26°♂36'09		opposition	2339 Jun 06 13:36	15°♂15'07	0°45'42
	2333 Jul 13 10:16	0°♂		min. Earth dist.	2339 Jun 08 02:12	15°♂03'27	4.32093 AU
retrograde	2333 Nov 03 06:01	15°♂45'13		direct	2339 Aug 07 18:52	10°♂15'56	
opposition	2334 Jan 01 21:07	10°♂41'14	0°-5'-17	evening set	2339 Dec 11 09:40	28°♂23'01	
min. Earth dist.	2333 Dec 31 14:52	10°♂51'30	4.17042 AU		2339 Dec 18 12:34	0°♂	
asc. node	2334 Feb 08 18:37	6°♂26'02		max. Earth dist.	2339 Dec 22 02:55	0°♂49'13	6.25427 AU
direct	2334 Mar 02 02:34	5°♂41'00					
evening set	2334 Jul 06 16:49	24°♂15'04		conjunction	2339 Dec 24 01:59	1°♂16'04	0°14'18
				minimum elong	2339 Dec 24 02:00	1°♂16'05	0°14'18

behind sun begin	2339 Dec 23 22:05	1°♊13'51		asc. node	2345 Dec 21 04:37	17°♊31'35	
behind sun end	2339 Dec 24 05:55	1°♊18'18		min. Earth dist.	2346 Jan 05 04:31	15°♊33'49	4.18826 AU
morning rise	2340 Jan 05 17:27	4°♊09'02		opposition	2346 Jan 06 09:48	15°♊23'54	0°02'16
retrograde	2340 May 09 19:01	22°♊27'06		direct	2346 Mar 06 18:14	10°♊23'25	
desc. node	2340 May 27 10:18	21°♊58'05		evening set	2346 Jul 11 11:00	28°♊53'13	
opposition	2340 Jul 09 14:47	17°♊33'42	0°-5'-58		2346 Jul 16 11:06	0°♊	
min. Earth dist.	2340 Jul 10 20:29	17°♊24'11	4.18222 AU				
direct	2340 Sep 08 17:10	12°♊37'02		conjunction	2346 Jul 25 03:04	1°♊56'06	0°19'51
	2341 Jan 06 05:46	0°♊		minimum elong	2346 Jul 25 03:03	1°♊56'05	0°19'51
evening set	2341 Jan 12 01:09	1°♊20'59		max. Earth dist.	2346 Jul 26 12:46	2°♊14'54	6.26038 AU
max. Earth dist.	2341 Jan 23 11:35	4°♊02'06	6.11155 AU	morning rise	2346 Aug 07 18:24	4°♊58'17	
					2346 Sep 25 07:53	15°♊	
conjunction	2341 Jan 24 19:07	4°♊20'40	0°-22'-29	retrograde	2346 Dec 09 16:31	22°♊52'32	
minimum elong	2341 Jan 24 19:05	4°♊20'39	0°22'30	opposition	2347 Feb 07 13:22	17°♊52'19	0°52'38
morning rise	2341 Feb 06 14:06	7°♊21'05		min. Earth dist.	2347 Feb 06 23:42	17°♊56'52	4.32578 AU
	2341 Mar 12 13:01	15°♊			2347 Mar 02 13:50	15°♊	
retrograde	2341 Jun 15 06:01	26°♊47'26		direct	2347 Apr 09 07:06	12°♊49'57	
opposition	2341 Aug 14 17:56	21°♊51'06	0°-59'-5		2347 May 17 10:15	15°♊	
min. Earth dist.	2341 Aug 15 05:41	21°♊47'15	4.04671 AU		2347 Aug 10 12:49	0°♊	
direct	2341 Oct 13 09:43	16°♊56'37		evening set	2347 Aug 14 02:34	0°♊46'19	
	2342 Jan 19 15:00	0°♊					
evening set	2342 Feb 15 16:34	6°♊17'33		conjunction	2347 Aug 27 12:37	3°♊41'34	0°49'24
				minimum elong	2347 Aug 27 12:35	3°♊41'33	0°49'23
conjunction	2342 Feb 28 15:27	9°♊24'22	0°-52'-56	max. Earth dist.	2347 Aug 27 20:19	3°♊45'46	6.38155 AU
minimum elong	2342 Feb 28 15:25	9°♊24'21	0°52'56	morning rise	2347 Sep 09 20:14	6°♊35'31	
max. Earth dist.	2342 Feb 28 14:36	9°♊23'51	5.99568 AU	retrograde	2348 Jan 09 04:14	23°♊42'22	
morning rise	2342 Mar 13 16:28	12°♊32'34		opposition	2348 Mar 09 09:50	18°♊45'50	1°25'13
	2342 Jun 09 13:35	0°♊		min. Earth dist.	2348 Mar 09 13:33	18°♊44'37	4.42288 AU
retrograde	2342 Jul 23 06:53	2°♊55'47		direct	2348 May 10 06:41	13°♊42'57	
	2342 Sep 05 06:11	30°♊			2348 Sep 07 21:54	0°♊	
opposition	2342 Sep 21 08:10	27°♊55'36	-1°-32'-45	evening set	2348 Sep 14 00:58	1°♊18'28	
min. Earth dist.	2342 Sep 20 21:51	27°♊59'02	3.96313 AU	max. Earth dist.	2348 Sep 26 07:03	3°♊57'01	6.44697 AU
direct	2342 Nov 18 18:10	23°♊02'02					
	2343 Jan 25 08:43	0°♊		conjunction	2348 Sep 27 03:28	4°♊08'04	1°04'03
evening set	2343 Mar 24 05:57	12°♊44'18		minimum elong	2348 Sep 27 03:27	4°♊08'04	1°04'02
				morning rise	2348 Oct 10 03:15	6°♊56'18	
conjunction	2343 Apr 06 12:07	15°♊56'29	-1°-4'-2	retrograde	2349 Feb 07 08:05	23°♊42'10	
minimum elong	2343 Apr 06 12:07	15°♊56'29	1°04'03	opposition	2349 Apr 08 20:51	18°♊48'34	1°33'57
max. Earth dist.	2343 Apr 07 18:44	16°♊15'00	5.95171 AU	min. Earth dist.	2349 Apr 09 18:44	18°♊41'31	4.45388 AU
morning rise	2343 Apr 19 21:32	19°♊10'21		direct	2349 Jun 10 12:10	13°♊46'10	
	2343 Jun 06 23:17	0°♊			2349 Oct 08 22:06	0°♊	
retrograde	2343 Aug 30 06:20	9°♊49'49		evening set	2349 Oct 14 21:34	1°♊17'03	
opposition	2343 Oct 28 23:49	4°♊46'10	-1°-30'-4	max. Earth dist.	2349 Oct 26 01:16	3°♊42'16	6.44051 AU
min. Earth dist.	2343 Oct 27 18:28	4°♊56'07	3.96519 AU				
	2343 Dec 16 17:25	30°♊		conjunction	2349 Oct 27 18:05	4°♊04'29	1°01'10
direct	2343 Dec 25 20:39	29°♊51'15		minimum elong	2349 Oct 27 18:06	4°♊04'30	1°01'10
	2344 Jan 04 00:28	0°♊		morning rise	2349 Nov 09 11:58	6°♊50'46	
	2344 Apr 10 14:17	15°♊			2349 Dec 19 04:43	15°♊	
evening set	2344 Apr 29 18:31	19°♊28'12		retrograde	2350 Mar 10 00:17	23°♊43'56	
				opposition	2350 May 09 20:14	18°♊51'49	1°17'40
conjunction	2344 May 13 08:29	22°♊41'47	0°-49'-59	min. Earth dist.	2350 May 11 05:13	18°♊41'17	4.41098 AU
minimum elong	2344 May 13 08:31	22°♊41'49	0°50'01		2350 Jun 13 13:42	15°♊	
max. Earth dist.	2344 May 15 12:27	23°♊12'43	5.99885 AU	direct	2350 Jul 11 12:47	13°♊50'47	
morning rise	2344 May 27 01:03	25°♊56'34			2350 Aug 08 14:32	15°♊	
	2344 Jun 13 12:27	0°♊			2350 Nov 07 08:50	0°♊	
retrograde	2344 Oct 04 16:38	16°♊01'47		evening set	2350 Nov 14 12:43	1°♊34'05	
min. Earth dist.	2344 Dec 01 19:42	11°♊08'37	4.05186 AU	max. Earth dist.	2350 Nov 25 04:07	3°♊55'30	6.36394 AU
opposition	2344 Dec 03 06:26	10°♊56'46	0°-52'-15				
direct	2345 Jan 30 13:34	5°♊59'03		conjunction	2350 Nov 27 05:42	4°♊23'04	0°41'32
evening set	2345 Jun 05 20:51	25°♊07'00		minimum elong	2350 Nov 27 05:44	4°♊23'05	0°41'32
				morning rise	2350 Dec 09 20:48	7°♊11'23	
conjunction	2345 Jun 19 14:53	28°♊17'01	0°-17'-25	retrograde	2351 Apr 11 06:44	24°♊39'32	
minimum elong	2345 Jun 19 14:54	28°♊17'02	0°17'27	opposition	2351 Jun 11 04:44	19°♊47'24	0°39'08
max. Earth dist.	2345 Jun 21 20:29	28°♊47'55	6.11698 AU	min. Earth dist.	2351 Jun 12 17:16	19°♊35'46	4.30472 AU
	2345 Jun 27 01:40	0°♊		direct	2351 Aug 12 07:39	14°♊48'31	
morning rise	2345 Jul 03 09:48	1°♊27'14			2351 Dec 02 12:12	0°♊	
retrograde	2345 Nov 07 18:01	20°♊27'27		evening set	2351 Dec 15 20:28	2°♊59'32	

max. Earth dist.	2351 Dec 26 13:41	5°♄26'23	6.23630 AU	conjunction	2357 Jun 24 17:39	3°♄15'35	0°-12'-7
				minimum elong	2357 Jun 24 17:40	3°♄15'35	0°12'09
conjunction	2351 Dec 28 12:41	5°♄53'19	0°09'16	behind sun begin	2357 Jun 24 12:09	3°♄12'26	
minimum elong	2351 Dec 28 12:42	5°♄53'19	0°09'17	behind sun end	2357 Jun 24 23:11	3°♄18'45	
behind sun begin	2351 Dec 28 05:57	5°♄49'28		max. Earth dist.	2357 Jun 26 20:25	3°♄44'44	6.13463 AU
behind sun end	2351 Dec 28 19:26	5°♄57'10		morning rise	2357 Jul 08 12:35	6°♄24'57	
morning rise	2352 Jan 10 04:35	8°♄47'09		asc. node	2357 Oct 30 13:05	24°♄59'50	
desc. node	2352 Apr 06 08:43	25°♄00'11		retrograde	2357 Nov 12 09:17	25°♄16'10	
retrograde	2352 May 14 17:22	27°♄13'41		min. Earth dist.	2358 Jan 09 21:54	20°♄22'19	4.20717 AU
opposition	2352 Jul 14 12:26	22°♄19'53	0°-13'-43	opposition	2358 Jan 11 01:19	20°♄13'02	0°10'03
min. Earth dist.	2352 Jul 15 15:59	22°♄11'01	4.16348 AU	direct	2358 Mar 11 14:45	15°♄12'14	
direct	2352 Sep 13 10:22	17°♄23'26			2358 Jun 29 17:32	0°♄	
	2352 Dec 20 10:20	0°♄		evening set	2358 Jul 16 07:52	3°♄37'16	
evening set	2353 Jan 16 17:28	6°♄12'19					
max. Earth dist.	2353 Jan 28 08:59	8°♄56'58	6.09376 AU	conjunction	2358 Jul 29 23:26	6°♄39'06	0°24'43
				minimum elong	2358 Jul 29 23:25	6°♄39'05	0°24'43
conjunction	2353 Jan 29 12:03	9°♄12'58	0°-27'-25	max. Earth dist.	2358 Jul 31 07:50	6°♄57'06	6.27946 AU
minimum elong	2353 Jan 29 12:02	9°♄12'57	0°27'27	morning rise	2358 Aug 12 13:42	9°♄40'03	
morning rise	2353 Feb 11 07:31	12°♄14'24			2358 Sep 06 08:52	15°♄	
	2353 Feb 23 04:07	15°♄		retrograde	2358 Dec 14 01:22	27°♄26'12	
	2353 May 17 01:20	0°♄		opposition	2359 Feb 11 23:32	22°♄26'33	0°58'30
retrograde	2353 Jun 20 11:22	1°♄49'31		min. Earth dist.	2359 Feb 11 11:09	22°♄30'40	4.34381 AU
	2353 Jul 24 22:43	30°♄		direct	2359 Apr 13 20:57	17°♄24'09	
opposition	2353 Aug 19 21:20	26°♄52'42	-1°-5'-25		2359 Jul 24 16:51	0°♄	
min. Earth dist.	2353 Aug 20 06:59	26°♄49'33	4.03151 AU	evening set	2359 Aug 18 16:53	5°♄16'06	
direct	2353 Oct 18 08:38	21°♄58'26					
	2353 Dec 31 08:33	0°♄		conjunction	2359 Sep 01 01:40	8°♄10'14	0°52'26
evening set	2354 Feb 20 15:49	11°♄23'29		minimum elong	2359 Sep 01 01:38	8°♄10'12	0°52'27
				max. Earth dist.	2359 Sep 01 04:48	8°♄11'56	6.39727 AU
conjunction	2354 Mar 05 15:25	14°♄31'11	0°-55'-52	morning rise	2359 Sep 14 08:14	11°♄03'05	
minimum elong	2354 Mar 05 15:24	14°♄31'09	0°55'53	retrograde	2360 Jan 13 10:23	28°♄04'20	
max. Earth dist.	2354 Mar 05 17:18	14°♄32'18	5.98432 AU	opposition	2360 Mar 13 16:39	23°♄08'17	1°27'53
morning rise	2354 Mar 18 17:40	17°♄40'22		min. Earth dist.	2360 Mar 13 23:24	23°♄06'05	4.43547 AU
	2354 May 13 13:36	0°♄		direct	2360 May 14 18:01	18°♄05'25	
retrograde	2354 Jul 28 13:10	8°♄08'52			2360 Aug 22 07:47	0°♄	
opposition	2354 Sep 26 13:59	3°♄08'08	-1°-34'-44	evening set	2360 Sep 18 09:24	5°♄37'48	
min. Earth dist.	2354 Sep 25 23:58	3°♄12'48	3.95708 AU				
	2354 Oct 22 03:33	30°♄		conjunction	2360 Oct 01 10:59	8°♄26'41	1°04'40
direct	2354 Nov 23 20:19	28°♄14'27		minimum elong	2360 Oct 01 10:59	8°♄26'41	1°04'40
	2354 Dec 26 07:55	0°♄		max. Earth dist.	2360 Sep 30 12:41	8°♄14'38	6.45544 AU
evening set	2355 Mar 29 10:12	17°♄58'08		morning rise	2360 Oct 14 09:35	11°♄14'10	
				retrograde	2361 Feb 11 10:52	27°♄57'41	
conjunction	2355 Apr 11 17:36	21°♄10'52	-1°-3'-32	opposition	2361 Apr 13 02:20	23°♄04'22	1°33'04
minimum elong	2355 Apr 11 17:37	21°♄10'53	1°03'33	min. Earth dist.	2361 Apr 14 01:10	22°♄57'01	4.45783 AU
max. Earth dist.	2355 Apr 13 04:14	21°♄31'49	5.95148 AU	direct	2361 Jun 14 18:23	18°♄02'08	
morning rise	2355 Apr 25 04:04	24°♄25'15			2361 Sep 22 17:04	0°♄	
	2355 May 18 23:15	0°♄		evening set	2361 Oct 19 02:24	5°♄31'54	
	2355 Aug 29 12:10	15°♄		max. Earth dist.	2361 Oct 30 03:20	7°♄55'45	6.43950 AU
retrograde	2355 Sep 04 11:52	15°♄03'35					
	2355 Sep 10 10:43	15°♄		conjunction	2361 Oct 31 22:05	8°♄19'04	0°59'22
min. Earth dist.	2355 Nov 01 21:44	10°♄09'44	3.97070 AU	minimum elong	2361 Oct 31 22:06	8°♄19'04	0°59'23
opposition	2355 Nov 03 03:43	9°♄59'33	-1°-26'-34	morning rise	2361 Nov 13 15:20	11°♄05'09	
direct	2355 Dec 31 01:13	5°♄04'18			2361 Dec 02 00:08	15°♄	
	2356 Mar 22 22:50	15°♄		retrograde	2362 Mar 14 07:18	27°♄59'46	
evening set	2356 May 05 00:02	24°♄39'11		opposition	2362 May 14 03:37	23°♄07'48	1°13'33
				min. Earth dist.	2362 May 15 14:44	22°♄56'36	4.40478 AU
conjunction	2356 May 18 14:57	27°♄52'43	0°-46'-14	direct	2362 Jul 15 20:49	18°♄07'00	
minimum elong	2356 May 18 14:59	27°♄52'45	0°46'15		2362 Oct 22 07:09	0°♄	
max. Earth dist.	2356 May 20 21:24	28°♄25'00	6.00959 AU	evening set	2362 Nov 18 16:51	5°♄51'40	
	2356 May 27 13:58	0°♄		max. Earth dist.	2362 Nov 29 05:42	8°♄12'06	6.35285 AU
morning rise	2356 Jun 01 08:13	1°♄07'18					
retrograde	2356 Oct 09 15:04	21°♄05'33		conjunction	2362 Dec 01 09:28	8°♄40'57	0°37'45
min. Earth dist.	2356 Dec 06 17:17	16°♄12'38	4.06669 AU	minimum elong	2362 Dec 01 09:29	8°♄40'57	0°37'44
opposition	2356 Dec 08 04:28	16°♄00'38	0°-45'-3	morning rise	2362 Dec 14 00:30	11°♄29'40	
direct	2357 Feb 04 13:13	11°♄02'35		retrograde	2363 Apr 15 17:53	29°♄03'26	
evening set	2357 Jun 10 23:40	0°♄06'20		opposition	2363 Jun 15 16:26	24°♄11'09	0°32'33
	2357 Jun 10 12:34	0°♄		min. Earth dist.	2363 Jun 17 04:27	23°♄59'39	4.28916 AU

direct	2363 Aug 16 15:39	19°♏12'29		direct	2369 Feb 09 16:09	16°♐10'22	
	2363 Nov 15 22:48	0°♏			2369 May 24 00:26	0°♏	
evening set	2363 Dec 20 03:45	7°♏27'42		evening set	2369 Jun 16 03:37	5°♏09'26	
max. Earth dist.	2363 Dec 30 23:10	9°♏56'23	6.21756 AU				
conjunction	2364 Jan 01 20:11	10°♏22'17	0°04'23	conjunction	2369 Jun 29 21:47	8°♏17'52	0°-6'-41
minimum elong	2364 Jan 01 20:12	10°♏22'18	0°04'23	minimum elong	2369 Jun 29 21:48	8°♏17'53	0°06'42
behind sun begin	2364 Jan 01 12:22	10°♏17'49		behind sun begin	2369 Jun 29 14:00	8°♏13'26	
behind sun end	2364 Jan 02 04:02	10°♏26'47		behind sun end	2369 Jun 30 05:36	8°♏22'19	
morning rise	2364 Jan 14 12:15	13°♏17'01		max. Earth dist.	2369 Jul 02 00:56	8°♏47'06	6.15356 AU
desc. node	2364 Feb 17 06:12	20°♏42'40		morning rise	2369 Jul 13 16:16	11°♏26'11	
	2364 Apr 14 10:10	0°♏		asc. node	2369 Sep 08 00:55	23°♏08'28	
retrograde	2364 May 19 13:40	1°♏52'40			2369 Nov 08 06:21	0°♏	
	2364 Jun 23 21:08	30°♏		retrograde	2369 Nov 17 01:41	0°♏07'37	
opposition	2364 Jul 19 06:42	26°♏58'36	0°-21'-10		2369 Nov 25 19:05	30°♏	
min. Earth dist.	2364 Jul 20 09:54	26°♏49'50	4.14270 AU	opposition	2370 Jan 15 17:48	25°♏04'48	0°17'49
direct	2364 Sep 18 00:22	22°♏02'27		min. Earth dist.	2370 Jan 14 15:39	25°♏13'37	4.22772 AU
	2364 Dec 01 23:43	0°♏		direct	2370 Mar 16 11:40	20°♏03'38	
evening set	2365 Jan 21 07:21	10°♏57'31			2370 Jun 11 07:23	0°♏	
max. Earth dist.	2365 Feb 02 00:25	13°♏43'52	6.07268 AU	evening set	2370 Jul 21 05:20	8°♏22'57	
conjunction	2365 Feb 03 02:24	13°♏59'18	0°-32'-1	conjunction	2370 Aug 03 19:58	11°♏23'32	0°29'27
minimum elong	2365 Feb 03 02:22	13°♏59'17	0°32'02	minimum elong	2370 Aug 03 19:56	11°♏23'31	0°29'27
	2365 Feb 07 08:40	15°♏		max. Earth dist.	2370 Aug 05 00:04	11°♏39'06	6.29958 AU
morning rise	2365 Feb 15 22:50	17°♏02'02		morning rise	2370 Aug 17 09:22	14°♏23'13	
	2365 Apr 17 12:32	0°♏			2370 Aug 20 04:28	15°♏	
retrograde	2365 Jun 25 13:11	6°♏47'33			2370 Nov 12 08:44	0°♏	
opposition	2365 Aug 24 22:31	1°♏50'15	-1°-11'-9	retrograde	2370 Dec 18 10:21	2°♏00'56	
min. Earth dist.	2365 Aug 25 04:44	1°♏48'12	4.01215 AU		2371 Jan 23 08:21	30°♏	
	2365 Sep 08 07:14	30°♏		opposition	2371 Feb 16 10:05	27°♏01'41	1°04'03
direct	2365 Oct 23 04:02	26°♏56'09		min. Earth dist.	2371 Feb 16 00:19	27°♏04'55	4.36175 AU
	2365 Dec 06 00:43	0°♏		direct	2371 Apr 18 12:06	21°♏59'02	
evening set	2366 Feb 25 13:51	16°♏27'20			2371 Jul 05 17:32	0°♏	
conjunction	2366 Mar 10 14:37	19°♏36'14	0°-58'-19	evening set	2371 Aug 23 07:14	9°♏46'33	
minimum elong	2366 Mar 10 14:36	19°♏36'13	0°58'20	conjunction	2371 Sep 05 15:05	12°♏39'41	0°55'12
max. Earth dist.	2366 Mar 10 21:29	19°♏40'24	5.96856 AU	minimum elong	2371 Sep 05 15:03	12°♏39'40	0°55'12
morning rise	2366 Mar 23 17:56	22°♏46'40		max. Earth dist.	2371 Sep 05 15:43	12°♏40'02	6.41149 AU
	2366 Apr 23 19:05	0°♏		morning rise	2371 Sep 18 20:16	15°♏31'27	
retrograde	2366 Aug 02 21:56	13°♏22'23			2371 Dec 08 07:33	0°♏	
opposition	2366 Oct 01 19:32	8°♏21'08	-1°-35'-57	retrograde	2372 Jan 17 15:52	2°♏27'46	
min. Earth dist.	2366 Oct 01 03:40	8°♏26'27	3.94672 AU		2372 Feb 27 03:26	30°♏	
direct	2366 Nov 28 23:36	3°♏27'21		opposition	2372 Mar 18 00:07	27°♏32'08	1°30'07
evening set	2367 Apr 03 15:20	23°♏14'14		min. Earth dist.	2372 Mar 18 08:47	27°♏29'18	4.44503 AU
conjunction	2367 Apr 17 00:03	26°♏27'47	-1°-2'-30	direct	2372 May 19 04:00	22°♏29'18	
minimum elong	2367 Apr 17 00:04	26°♏27'48	1°02'31		2372 Aug 03 10:27	0°♏	
max. Earth dist.	2367 Apr 18 15:14	26°♏51'28	5.94756 AU	evening set	2372 Sep 22 18:40	9°♏59'32	
morning rise	2367 Apr 30 11:49	29°♏42'55		conjunction	2372 Oct 05 19:07	12°♏47'51	1°04'58
	2367 May 01 16:20	0°♏		minimum elong	2372 Oct 05 19:07	12°♏47'50	1°04'58
	2367 Jul 11 20:08	15°♏		max. Earth dist.	2372 Oct 04 16:01	12°♏33'12	6.45942 AU
retrograde	2367 Sep 09 17:36	20°♏21'01		morning rise	2372 Oct 18 16:57	15°♏34'50	
min. Earth dist.	2367 Nov 06 23:55	15°♏27'40	3.97386 AU		2373 Jan 07 16:30	0°♏	
opposition	2367 Nov 08 08:13	15°♏16'41	-1°-22'-21	retrograde	2373 Feb 15 18:58	2°♏17'42	
	2367 Nov 10 09:22	15°♏			2373 Mar 27 02:19	30°♏	
direct	2368 Jan 05 04:29	10°♏21'07		opposition	2373 Apr 17 10:20	27°♏24'38	1°31'44
	2368 Feb 28 10:59	15°♏		min. Earth dist.	2373 Apr 18 12:14	27°♏16'19	4.45602 AU
evening set	2368 May 10 07:32	29°♏54'47		direct	2373 Jun 19 04:24	22°♏22'30	
	2368 May 10 16:24	0°♏			2373 Sep 04 02:27	0°♏	
conjunction	2368 May 23 23:12	3°♏08'15	0°-42'-4	evening set	2373 Oct 23 09:29	9°♏52'55	
minimum elong	2368 May 23 23:15	3°♏08'16	0°42'04	max. Earth dist.	2373 Nov 03 07:59	12°♏15'44	6.43195 AU
max. Earth dist.	2368 May 26 06:07	3°♏40'42	6.01936 AU	conjunction	2373 Nov 05 04:42	12°♏40'09	0°57'13
morning rise	2368 Jun 06 17:19	6°♏22'41		minimum elong	2373 Nov 05 04:43	12°♏40'10	0°57'12
retrograde	2368 Oct 14 14:06	26°♏13'54			2373 Nov 15 20:56	15°♏	
min. Earth dist.	2368 Dec 11 16:26	21°♏20'59	4.08167 AU	morning rise	2373 Nov 17 21:21	15°♏26'20	
opposition	2368 Dec 13 03:47	21°♏08'56	0°-37'-26		2374 Feb 06 13:25	0°♏	
				retrograde	2374 Mar 18 17:12	2°♏24'39	

	2374 Apr 28 08:48	30° \mathbb{M}		opposition	2379 Nov 13 13:48	20° \mathbb{B} 36'27	-1°-17'-26
opposition	2374 May 18 14:57	27° \mathbb{M} 32'42	1°08'53	direct	2380 Jan 10 11:42	15° \mathbb{B} 40'30	
min. Earth dist.	2374 May 20 02:11	27° \mathbb{M} 21'28	4.39195 AU		2380 Apr 23 04:18	0° \mathbb{H}	
direct	2374 Jul 20 05:20	22° \mathbb{M} 32'09		evening set	2380 May 15 14:53	5° \mathbb{H} 09'20	
	2374 Oct 03 11:46	0° \mathbb{J}					
evening set	2374 Nov 23 01:34	10° \mathbb{J} 20'18		conjunction	2380 May 29 07:20	8° \mathbb{H} 22'14	0°-37'-36
max. Earth dist.	2374 Dec 03 14:32	12° \mathbb{J} 41'22	6.33574 AU	minimum elong	2380 May 29 07:22	8° \mathbb{H} 22'16	0°37'37
				max. Earth dist.	2380 May 31 16:30	8° \mathbb{H} 55'52	6.03814 AU
conjunction	2374 Dec 05 17:58	13° \mathbb{J} 10'10	0°33'34	morning rise	2380 Jun 12 01:39	11° \mathbb{H} 35'55	
minimum elong	2374 Dec 05 18:00	13° \mathbb{J} 10'11	0°33'34		2380 Sep 21 06:51	0° \mathbb{G}	
morning rise	2374 Dec 18 08:57	15° \mathbb{J} 59'34		retrograde	2380 Oct 19 12:08	1° \mathbb{G} 16'50	
	2375 Mar 01 08:27	0° \mathbb{B}			2380 Nov 16 09:12	30° \mathbb{R} \mathbb{H}	
retrograde	2375 Apr 20 13:34	3° \mathbb{B} 41'02		min. Earth dist.	2380 Dec 16 14:43	26° \mathbb{H} 23'45	4.10405 AU
	2375 Jun 11 00:09	30° \mathbb{R} \mathbb{J}		opposition	2380 Dec 18 01:04	26° \mathbb{H} 12'03	0°-29'-43
opposition	2375 Jun 20 10:22	28° \mathbb{J} 48'38	0°25'25	direct	2381 Feb 14 17:35	21° \mathbb{H} 13'06	
min. Earth dist.	2375 Jun 21 22:56	28° \mathbb{J} 36'58	4.26863 AU		2381 May 04 20:17	0° \mathbb{G}	
direct	2375 Aug 21 06:51	23° \mathbb{J} 50'19		evening set	2381 Jun 21 05:01	10° \mathbb{G} 05'22	
	2375 Oct 26 15:32	0° \mathbb{B}					
evening set	2375 Dec 24 17:15	12° \mathbb{B} 11'13		conjunction	2381 Jul 04 22:48	13° \mathbb{G} 12'36	0°-1'-19
desc. node	2375 Dec 27 09:43	12° \mathbb{B} 48'13		minimum elong	2381 Jul 04 22:50	13° \mathbb{G} 12'37	0°01'20
max. Earth dist.	2376 Jan 04 13:31	14° \mathbb{B} 41'10	6.19530 AU	behind sun begin	2381 Jul 04 14:27	13° \mathbb{G} 07'52	
				behind sun end	2381 Jul 05 07:13	13° \mathbb{G} 17'21	
conjunction	2376 Jan 06 09:54	15° \mathbb{B} 06'49	0°00'-57	max. Earth dist.	2381 Jul 06 23:00	13° \mathbb{G} 40'00	6.17739 AU
minimum elong	2376 Jan 06 09:54	15° \mathbb{B} 06'49	0°00'58	morning rise	2381 Jul 18 16:56	16° \mathbb{G} 19'39	
behind sun begin	2376 Jan 06 01:54	15° \mathbb{B} 02'13		asc. node	2381 Jul 18 15:59	16° \mathbb{G} 19'07	
behind sun end	2376 Jan 06 17:53	15° \mathbb{B} 11'25			2381 Sep 25 08:33	0° \mathbb{J}	
morning rise	2376 Jan 19 02:31	18° \mathbb{B} 02'41		retrograde	2381 Nov 21 12:18	4° \mathbb{J} 50'16	
	2376 Mar 16 01:06	0° \mathbb{A}			2382 Jan 18 18:36	30° \mathbb{R} \mathbb{G}	
retrograde	2376 May 24 15:31	6° \mathbb{A} 48'49		min. Earth dist.	2382 Jan 19 06:13	29° \mathbb{G} 56'05	4.25083 AU
opposition	2376 Jul 24 08:27	1° \mathbb{A} 54'21	0°-28'-59	opposition	2382 Jan 20 06:37	29° \mathbb{G} 47'52	0°25'11
min. Earth dist.	2376 Jul 25 08:24	1° \mathbb{A} 46'37	4.12051 AU	direct	2382 Mar 21 04:45	24° \mathbb{G} 46'24	
	2376 Aug 08 12:06	30° \mathbb{R} \mathbb{B}			2382 May 20 16:30	0° \mathbb{J}	
direct	2376 Sep 22 19:42	26° \mathbb{B} 58'35		evening set	2382 Jul 25 22:51	12° \mathbb{J} 59'48	
	2376 Nov 06 04:34	0° \mathbb{A}			2382 Aug 04 01:28	15° \mathbb{J}	
	2377 Jan 21 22:23	15° \mathbb{A}					
evening set	2377 Jan 26 04:22	16° \mathbb{A} 00'06		conjunction	2382 Aug 08 12:41	15° \mathbb{J} 59'10	0°33'51
max. Earth dist.	2377 Feb 07 03:10	18° \mathbb{A} 50'34	6.05267 AU	minimum elong	2382 Aug 08 12:39	15° \mathbb{J} 59'09	0°33'51
				max. Earth dist.	2382 Aug 09 13:08	16° \mathbb{J} 12'39	6.32017 AU
conjunction	2377 Feb 08 00:07	19° \mathbb{A} 03'03	0°-36'-42	morning rise	2382 Aug 22 00:54	18° \mathbb{J} 57'30	
minimum elong	2377 Feb 08 00:05	19° \mathbb{A} 03'01	0°36'42		2382 Oct 16 02:36	0° \mathbb{H}	
morning rise	2377 Feb 20 21:17	22° \mathbb{A} 07'01		retrograde	2382 Dec 22 17:07	6° \mathbb{H} 27'25	
	2377 Mar 27 11:44	0° \mathbb{H}		opposition	2383 Feb 20 17:27	1° \mathbb{H} 28'44	1°09'01
retrograde	2377 Jul 01 00:32	12° \mathbb{H} 02'22		min. Earth dist.	2383 Feb 20 10:47	1° \mathbb{H} 30'57	4.37830 AU
opposition	2377 Aug 30 06:55	7° \mathbb{H} 04'36	-1°-16'-42		2383 Mar 04 02:02	30° \mathbb{R} \mathbb{J}	
min. Earth dist.	2377 Aug 30 10:37	7° \mathbb{H} 03'22	3.99648 AU	direct	2383 Apr 22 23:58	26° \mathbb{J} 26'02	
direct	2377 Oct 28 08:50	2° \mathbb{H} 10'43			2383 Jun 12 02:23	0° \mathbb{H}	
evening set	2378 Mar 02 18:40	21° \mathbb{H} 46'21		evening set	2383 Aug 27 18:09	14° \mathbb{H} 09'54	
conjunction	2378 Mar 15 20:29	24° \mathbb{H} 56'12	-1°00'-27	conjunction	2383 Sep 10 00:51	17° \mathbb{H} 02'09	0°57'35
minimum elong	2378 Mar 15 20:28	24° \mathbb{H} 56'11	1°00'28	minimum elong	2383 Sep 10 00:49	17° \mathbb{H} 02'08	0°57'34
max. Earth dist.	2378 Mar 16 08:32	25° \mathbb{H} 03'30	5.95891 AU	max. Earth dist.	2383 Sep 09 19:54	16° \mathbb{H} 59'28	6.42258 AU
morning rise	2378 Mar 29 01:02	28° \mathbb{H} 07'37		morning rise	2383 Sep 23 05:03	19° \mathbb{H} 53'03	
	2378 Apr 05 20:49	0° \mathbb{Y}			2383 Nov 13 01:38	0° \mathbb{J}	
retrograde	2378 Aug 08 09:14	18° \mathbb{Y} 47'16		retrograde	2384 Jan 21 20:35	6° \mathbb{J} 45'58	
min. Earth dist.	2378 Oct 06 09:49	13° \mathbb{Y} 52'08	3.94478 AU	opposition	2384 Mar 22 05:29	1° \mathbb{J} 50'44	1°31'50
opposition	2378 Oct 07 05:30	13° \mathbb{Y} 45'32	-1°-36'-24	min. Earth dist.	2384 Mar 22 17:18	1° \mathbb{J} 46'54	4.45030 AU
direct	2378 Dec 04 05:44	8° \mathbb{Y} 51'43			2384 Apr 05 18:55	30° \mathbb{R} \mathbb{H}	
evening set	2379 Apr 09 00:24	28° \mathbb{Y} 38'24		direct	2384 May 23 12:03	26° \mathbb{H} 47'54	
	2379 Apr 14 16:09	0° \mathbb{B}			2384 Jul 10 08:37	0° \mathbb{J}	
				evening set	2384 Sep 27 01:47	14° \mathbb{J} 17'35	
conjunction	2379 Apr 22 10:07	1° \mathbb{B} 52'11	-1°00'-58	max. Earth dist.	2384 Oct 08 20:14	16° \mathbb{J} 49'45	6.45844 AU
minimum elong	2379 Apr 22 10:09	1° \mathbb{B} 52'12	1°00'59				
max. Earth dist.	2379 Apr 24 04:10	2° \mathbb{B} 17'32	5.95337 AU	conjunction	2384 Oct 10 01:34	17° \mathbb{J} 05'36	1°04'55
morning rise	2379 May 05 23:05	5° \mathbb{B} 07'32		minimum elong	2384 Oct 10 01:34	17° \mathbb{J} 05'36	1°04'55
	2379 Jun 18 13:31	15° \mathbb{B}		morning rise	2384 Oct 22 22:22	19° \mathbb{J} 52'17	
retrograde	2379 Sep 14 22:43	25° \mathbb{B} 41'06			2384 Dec 12 23:53	0° \mathbb{M}	
min. Earth dist.	2379 Nov 12 03:50	20° \mathbb{B} 48'02	3.98675 AU	retrograde	2385 Feb 20 00:31	6° \mathbb{M} 36'14	

opposition	2385 Apr 21 17:15	1° \mathbb{M} 43'26	1°29'57	min. Earth dist.	2390 Oct 11 15:38	19° Υ 15'11	3.94757 AU
min. Earth dist.	2385 Apr 22 20:37	1° \mathbb{M} 34'40	4.44905 AU	direct	2390 Dec 09 13:31	14° Υ 13'31	
	2385 May 05 10:57	30° \mathbb{R} $\underline{\mathbb{A}}$			2391 Mar 28 12:29	0° \mathbb{B}	
direct	2385 Jun 23 10:38	26° $\underline{\mathbb{A}}$ 41'30		evening set	2391 Apr 14 08:00	3° \mathbb{B} 58'13	
	2385 Aug 11 05:15	0° \mathbb{M}					
evening set	2385 Oct 27 16:20	14° \mathbb{M} 14'18		conjunction	2391 Apr 27 18:57	7° \mathbb{B} 12'04	0°-58'-56
	2385 Oct 31 04:19	15° \mathbb{M}		minimum elong	2391 Apr 27 18:59	7° \mathbb{B} 12'06	0°58'57
max. Earth dist.	2385 Nov 07 11:26	16° \mathbb{M} 35'47	6.41941 AU	max. Earth dist.	2391 Apr 29 17:32	7° \mathbb{B} 40'05	5.96296 AU
				morning rise	2391 May 11 08:42	10° \mathbb{B} 27'22	
conjunction	2385 Nov 09 10:54	17° \mathbb{M} 01'49	0°54'46		2391 May 30 18:15	15° \mathbb{B}	
minimum elong	2385 Nov 09 10:56	17° \mathbb{M} 01'49	0°54'45		2391 Aug 27 10:27	0° \mathbb{I}	
morning rise	2385 Nov 22 03:19	19° \mathbb{M} 48'22		retrograde	2391 Sep 20 02:50	0° \mathbb{I} 54'39	
	2386 Jan 11 17:24	0° \mathbb{A}			2391 Oct 13 12:57	30° \mathbb{R} \mathbb{B}	
retrograde	2386 Mar 23 07:02	6° \mathbb{A} 52'07		min. Earth dist.	2391 Nov 17 06:22	26° \mathbb{B} 01'30	4.00195 AU
opposition	2386 May 23 03:21	2° \mathbb{A} 00'13	1°03'51	opposition	2391 Nov 18 16:33	25° \mathbb{B} 49'51	-1°-11'-57
min. Earth dist.	2386 May 24 16:20	1° \mathbb{A} 48'26	4.37455 AU	direct	2392 Jan 15 16:44	20° \mathbb{B} 53'30	
	2386 Jun 08 07:28	30° \mathbb{R} \mathbb{M}			2392 Apr 04 01:06	0° \mathbb{I}	
direct	2386 Jul 24 16:42	26° \mathbb{M} 59'55		evening set	2392 May 20 20:08	10° \mathbb{I} 17'04	
	2386 Sep 08 12:48	0° \mathbb{A}					
evening set	2386 Nov 27 11:10	14° \mathbb{A} 52'55		conjunction	2392 Jun 03 12:58	13° \mathbb{I} 29'18	0°-32'-56
max. Earth dist.	2386 Dec 08 00:23	17° \mathbb{A} 14'48	6.31491 AU	minimum elong	2392 Jun 03 13:01	13° \mathbb{I} 29'19	0°32'57
				max. Earth dist.	2392 Jun 05 21:19	14° \mathbb{I} 02'15	6.05741 AU
conjunction	2386 Dec 10 03:36	17° \mathbb{A} 43'36	0°29'09	morning rise	2392 Jun 17 07:45	16° \mathbb{I} 42'13	
minimum elong	2386 Dec 10 03:38	17° \mathbb{A} 43'37	0°29'10		2392 Aug 19 22:35	0° \mathbb{B}	
morning rise	2386 Dec 22 18:38	20° \mathbb{A} 33'53		retrograde	2392 Oct 24 04:50	6° \mathbb{B} 12'56	
	2387 Feb 05 16:06	0° \mathbb{B}		min. Earth dist.	2392 Dec 21 09:30	1° \mathbb{B} 19'57	4.12535 AU
retrograde	2387 Apr 25 08:45	8° \mathbb{B} 24'20		opposition	2392 Dec 22 19:35	1° \mathbb{B} 08'21	0°-21'-57
opposition	2387 Jun 25 06:15	3° \mathbb{B} 31'43	0°18'01		2392 Dec 31 06:39	30° \mathbb{R} \mathbb{I}	
min. Earth dist.	2387 Jun 26 16:43	3° \mathbb{B} 20'42	4.24586 AU	direct	2393 Feb 19 15:07	26° \mathbb{I} 08'59	
	2387 Jul 26 00:37	30° \mathbb{R} \mathbb{A}			2393 Apr 10 19:52	0° \mathbb{B}	
direct	2387 Aug 25 21:19	28° \mathbb{A} 33'47		asc. node	2393 May 28 12:25	8° \mathbb{B} 38'48	
	2387 Sep 25 15:44	0° \mathbb{B}		evening set	2393 Jun 26 04:10	14° \mathbb{B} 55'15	
desc. node	2387 Nov 05 08:59	5° \mathbb{B} 38'52					
evening set	2387 Dec 29 09:01	17° \mathbb{B} 00'58		conjunction	2393 Jul 09 21:43	18° \mathbb{B} 01'24	0°04'03
max. Earth dist.	2388 Jan 09 08:55	19° \mathbb{B} 33'47	6.17262 AU	minimum elong	2393 Jul 09 21:44	18° \mathbb{B} 01'24	0°04'03
				behind sun begin	2393 Jul 09 13:29	17° \mathbb{B} 56'46	
conjunction	2388 Jan 11 01:56	19° \mathbb{B} 57'37	0°-6'-17	behind sun end	2393 Jul 10 05:58	18° \mathbb{B} 06'03	
minimum elong	2388 Jan 11 01:55	19° \mathbb{B} 57'37	0°06'18	max. Earth dist.	2393 Jul 11 18:40	18° \mathbb{B} 26'50	6.19909 AU
behind sun begin	2388 Jan 10 18:21	19° \mathbb{B} 53'14		morning rise	2393 Jul 23 15:13	21° \mathbb{B} 07'14	
behind sun end	2388 Jan 11 09:29	20° \mathbb{B} 01'59			2393 Sep 03 10:19	0° \mathbb{Q}	
morning rise	2388 Jan 23 19:01	22° \mathbb{B} 54'38		retrograde	2393 Nov 26 00:04	9° \mathbb{Q} 28'15	
	2388 Feb 24 13:40	0° \mathbb{A}		opposition	2394 Jan 24 18:15	4° \mathbb{Q} 26'22	0°32'17
retrograde	2388 May 29 21:40	11° \mathbb{A} 51'12		min. Earth dist.	2394 Jan 23 20:56	4° \mathbb{Q} 33'32	4.27091 AU
opposition	2388 Jul 29 12:26	6° \mathbb{A} 56'20	0°-36'-42		2394 Mar 06 18:29	30° \mathbb{R} \mathbb{B}	
min. Earth dist.	2388 Jul 30 10:26	6° \mathbb{A} 49'13	4.09974 AU	direct	2394 Mar 25 21:41	29° \mathbb{B} 24'41	
direct	2388 Sep 27 20:09	2° \mathbb{A} 00'53			2394 Apr 14 04:50	0° \mathbb{Q}	
	2389 Jan 04 13:05	15° \mathbb{A}			2394 Jul 18 20:11	15° \mathbb{Q}	
evening set	2389 Jan 31 03:28	21° \mathbb{A} 08'01		evening set	2394 Jul 30 15:19	17° \mathbb{Q} 33'15	
conjunction	2389 Feb 12 23:56	24° \mathbb{A} 12'01	0°-41'-8	conjunction	2394 Aug 13 04:18	20° \mathbb{Q} 31'33	0°38'00
minimum elong	2389 Feb 12 23:54	24° \mathbb{A} 11'59	0°41'09	minimum elong	2394 Aug 13 04:16	20° \mathbb{Q} 31'32	0°38'01
max. Earth dist.	2389 Feb 12 07:33	24° \mathbb{A} 02'13	6.03579 AU	max. Earth dist.	2394 Aug 14 00:36	20° \mathbb{Q} 42'43	6.33708 AU
morning rise	2389 Feb 25 22:02	27° \mathbb{A} 17'07		morning rise	2394 Aug 26 15:30	23° \mathbb{Q} 28'46	
	2389 Mar 09 10:35	0° \mathbb{H}			2394 Sep 26 14:35	0° \mathbb{H}	
retrograde	2389 Jul 06 10:37	17° \mathbb{H} 20'24		retrograde	2394 Dec 26 22:11	10° \mathbb{H} 52'16	
opposition	2389 Sep 04 16:01	12° \mathbb{H} 22'02	-1°-21'-38	opposition	2395 Feb 25 00:33	5° \mathbb{H} 54'06	1°13'36
min. Earth dist.	2389 Sep 04 15:27	12° \mathbb{H} 22'13	3.98550 AU	min. Earth dist.	2395 Feb 24 20:04	5° \mathbb{H} 55'35	4.39112 AU
direct	2389 Nov 02 12:42	7° \mathbb{H} 28'18		direct	2395 Apr 27 10:14	0° \mathbb{H} 51'19	
evening set	2390 Mar 08 00:01	27° \mathbb{H} 06'20		evening set	2395 Sep 01 05:14	18° \mathbb{H} 32'45	
	2390 Mar 19 23:02	0° \mathbb{Y}					
				conjunction	2395 Sep 14 10:58	21° \mathbb{H} 24'18	0°59'38
conjunction	2390 Mar 21 02:44	0° \mathbb{Y} 16'48	-1°-2'-5	minimum elong	2395 Sep 14 10:56	21° \mathbb{H} 24'17	0°59'38
minimum elong	2390 Mar 21 02:43	0° \mathbb{Y} 16'48	1°02'05	max. Earth dist.	2395 Sep 14 02:25	21° \mathbb{H} 19'40	6.43042 AU
max. Earth dist.	2390 Mar 21 19:11	0° \mathbb{Y} 26'46	5.95457 AU	morning rise	2395 Sep 27 14:00	24° \mathbb{H} 14'27	
morning rise	2390 Apr 03 08:28	3° \mathbb{Y} 28'56			2395 Oct 25 04:33	0° \mathbb{A}	
retrograde	2390 Aug 13 17:36	24° \mathbb{Y} 09'55		retrograde	2396 Jan 26 02:06	11° \mathbb{A} 04'59	
opposition	2390 Oct 12 14:10	19° \mathbb{Y} 07'35	-1°-36'00	opposition	2396 Mar 26 11:46	6° \mathbb{A} 10'14	1°33'03

min. Earth dist.	2396 Mar 27 02:19	6°♂05'31	4.45283 AU	conjunction	2402 Mar 26 06:34	5°♂30'43	-1°-3'-9
direct	2396 May 27 20:45	1°♂07'33		minimum elong	2402 Mar 26 06:33	5°♂30'43	1°03'10
evening set	2396 Oct 01 09:48	18°♂37'19		max. Earth dist.	2402 Mar 27 04:49	5°♂44'12	5.95423 AU
max. Earth dist.	2396 Oct 12 22:54	21°♂06'52	6.45532 AU	morning rise	2402 Apr 08 13:12	8°♂43'17	
				retrograde	2402 Aug 19 00:00	29°♂23'51	
conjunction	2396 Oct 14 08:40	21°♂25'08	1°04'30	opposition	2402 Oct 17 18:45	24°♂21'05	-1°-34'-47
minimum elong	2396 Oct 14 08:40	21°♂25'08	1°04'30	min. Earth dist.	2402 Oct 16 18:43	24°♂29'11	3.95341 AU
morning rise	2396 Oct 27 04:53	24°♂11'42		direct	2402 Dec 14 17:37	19°♂26'49	
	2396 Nov 24 00:09	0°♂			2403 Mar 10 07:41	0°♂	
retrograde	2397 Feb 24 09:31	10°♂57'30		evening set	2403 Apr 19 11:57	9°♂08'46	
opposition	2397 Apr 26 02:08	6°♂04'57	1°27'39				
min. Earth dist.	2397 Apr 27 07:32	5°♂55'32	4.44065 AU	conjunction	2403 May 02 23:42	12°♂22'31	0°-56'-30
direct	2397 Jun 27 19:51	1°♂03'14		minimum elong	2403 May 02 23:44	12°♂22'32	0°56'30
	2397 Oct 15 00:05	15°♂		max. Earth dist.	2403 May 04 23:23	12°♂51'04	5.97406 AU
evening set	2397 Nov 01 00:12	18°♂38'39			2403 May 13 23:08	15°♂	
max. Earth dist.	2397 Nov 11 19:07	21°♂00'28	6.40648 AU	morning rise	2403 May 16 14:30	15°♂37'42	
					2403 Jul 23 08:36	0°♂	
conjunction	2397 Nov 13 18:30	21°♂26'31	0°51'57	retrograde	2403 Sep 25 00:16	5°♂58'21	
minimum elong	2397 Nov 13 18:31	21°♂26'32	0°51'57	min. Earth dist.	2403 Nov 22 03:30	1°♂05'28	4.01714 AU
morning rise	2397 Nov 26 10:24	24°♂13'27		opposition	2403 Nov 23 14:48	0°♂53'26	-1°-6'-8
	2397 Dec 23 14:52	0°♂			2403 Nov 30 04:41	30°♂	
retrograde	2398 Mar 27 19:55	11°♂22'49		direct	2404 Jan 20 15:51	25°♂56'39	
opposition	2398 May 27 17:20	6°♂30'59	0°58'21		2404 Mar 11 09:43	0°♂	
min. Earth dist.	2398 May 29 05:48	6°♂19'22	4.35805 AU	evening set	2404 May 25 21:09	15°♂15'22	
direct	2398 Jul 29 03:39	1°♂31'07					
evening set	2398 Dec 01 22:13	19°♂28'36		conjunction	2404 Jun 08 14:26	18°♂26'58	0°-28'-12
max. Earth dist.	2398 Dec 12 11:46	21°♂51'22	6.29630 AU	minimum elong	2404 Jun 08 14:28	18°♂26'59	0°28'13
				max. Earth dist.	2404 Jun 10 21:20	18°♂58'58	6.07533 AU
conjunction	2398 Dec 14 14:24	22°♂19'59	0°24'32	morning rise	2404 Jun 22 09:19	21°♂39'06	
minimum elong	2398 Dec 14 14:25	22°♂19'59	0°24'32		2404 Jul 30 05:19	0°♂	
morning rise	2398 Dec 27 05:38	25°♂11'05		retrograde	2404 Oct 28 20:14	11°♂00'42	
	2399 Jan 18 02:33	0°♂		min. Earth dist.	2404 Dec 26 02:58	6°♂07'10	4.14402 AU
retrograde	2399 Apr 30 07:09	13°♂09'55		opposition	2404 Dec 27 10:38	5°♂56'24	0°-14'-19
opposition	2399 Jun 30 03:23	8°♂17'06	0°10'26	direct	2405 Feb 24 10:50	0°♂56'40	
min. Earth dist.	2399 Jul 01 12:55	8°♂06'22	4.22639 AU	asc. node	2405 Apr 08 17:58	3°♂51'15	
direct	2399 Aug 30 15:35	3°♂19'35		evening set	2405 Jul 01 00:04	19°♂38'02	
desc. node	2399 Sep 14 15:41	3°♂40'46					
evening set	2400 Jan 03 00:58	21°♂51'48		conjunction	2405 Jul 14 17:22	22°♂43'17	0°09'07
max. Earth dist.	2400 Jan 14 04:42	24°♂27'28	6.15416 AU	minimum elong	2405 Jul 14 17:22	22°♂43'17	0°09'06
				behind sun begin	2405 Jul 14 10:20	22°♂39'20	
conjunction	2400 Jan 15 18:16	24°♂49'22	0°-11'-31	behind sun end	2405 Jul 15 00:24	22°♂47'13	
minimum elong	2400 Jan 15 18:15	24°♂49'22	0°11'31	max. Earth dist.	2405 Jul 16 11:56	23°♂07'15	6.21709 AU
behind sun begin	2400 Jan 15 12:25	24°♂45'59		morning rise	2405 Jul 28 10:15	25°♂48'03	
behind sun end	2400 Jan 16 00:05	24°♂52'46			2405 Aug 16 13:32	0°♂	
morning rise	2400 Jan 28 11:48	27°♂47'24		retrograde	2405 Nov 30 07:24	14°♂01'00	
	2400 Feb 07 02:03	0°♂		min. Earth dist.	2406 Jan 28 07:24	9°♂06'17	4.28697 AU
	2400 Apr 30 00:28	15°♂		opposition	2406 Jan 29 03:17	8°♂59'37	0°38'58
retrograde	2400 Jun 04 01:14	16°♂52'50		direct	2406 Mar 30 10:01	3°♂57'44	
	2400 Jul 09 06:57	15°♂			2406 Jul 01 16:16	15°♂	
opposition	2400 Aug 03 15:57	11°♂57'35	0°-44'-5	evening set	2406 Aug 04 05:46	22°♂02'52	
min. Earth dist.	2400 Aug 04 10:19	11°♂51'37	4.08404 AU				
direct	2400 Oct 02 18:15	7°♂02'31		conjunction	2406 Aug 17 17:49	25°♂00'16	0°41'50
	2400 Dec 16 01:22	15°♂		minimum elong	2406 Aug 17 17:47	25°♂00'15	0°41'50
evening set	2401 Feb 05 01:34	26°♂13'29		max. Earth dist.	2406 Aug 18 09:18	25°♂08'45	6.35010 AU
				morning rise	2406 Aug 31 04:03	27°♂56'32	
conjunction	2401 Feb 17 22:32	29°♂18'13	0°-45'-11		2406 Sep 09 16:40	0°♂	
minimum elong	2401 Feb 17 22:30	29°♂18'12	0°45'13	retrograde	2406 Dec 31 04:45	15°♂15'01	
max. Earth dist.	2401 Feb 17 10:16	29°♂10'52	6.02416 AU	opposition	2407 Mar 01 06:57	10°♂17'22	1°17'40
	2401 Feb 20 20:14	0°♂		min. Earth dist.	2407 Mar 01 05:51	10°♂17'44	4.40043 AU
morning rise	2401 Mar 02 21:31	2°♂24'12		direct	2407 May 01 21:09	5°♂14'32	
retrograde	2401 Jul 11 17:53	22°♂33'29		evening set	2407 Sep 05 15:07	22°♂54'20	
opposition	2401 Sep 09 22:39	17°♂34'31	-1°-25'-45				
min. Earth dist.	2401 Sep 09 18:47	17°♂35'47	3.97922 AU	conjunction	2407 Sep 18 19:55	25°♂45'18	1°01'19
direct	2401 Nov 07 16:10	12°♂40'50		minimum elong	2407 Sep 18 19:54	25°♂45'17	1°01'19
	2402 Mar 03 08:58	0°♂		max. Earth dist.	2407 Sep 18 07:55	25°♂38'48	6.43529 AU
evening set	2402 Mar 13 02:43	2°♂19'45		morning rise	2407 Oct 01 21:57	28°♂34'52	
					2407 Oct 08 13:09	0°♂	

retrograde	2408 Jan 30 06:41	15°♂23'53		evening set	2414 Mar 18 05:59	7°♀32'44	
opposition	2408 Mar 30 18:00	10°♂29'27	1°33'44				
min. Earth dist.	2408 Mar 31 10:06	10°♂24'15	4.45336 AU	conjunction	2414 Mar 31 10:46	10°♀44'20	-1°-3'-45
direct	2408 Jun 01 04:19	5°♂26'49		minimum elong	2414 Mar 31 10:46	10°♀44'20	1°03'46
evening set	2408 Oct 05 17:22	22°♂56'54		max. Earth dist.	2414 Apr 01 11:44	10°♀59'27	5.95055 AU
max. Earth dist.	2408 Oct 17 04:43	25°♂25'42	6.45150 AU	morning rise	2414 Apr 13 18:46	13°♀57'38	
					2414 Jun 29 15:16	0°♂	
conjunction	2408 Oct 18 15:30	25°♂44'34	1°03'42	retrograde	2414 Aug 24 05:17	4°♂39'03	
minimum elong	2408 Oct 18 15:31	25°♂44'34	1°03'42		2414 Oct 20 00:22	30°♂♀	
morning rise	2408 Oct 31 10:51	28°♂30'58		opposition	2414 Oct 22 23:47	29°♀35'53	-1°-32'-52
	2408 Nov 07 08:56	0°♂		min. Earth dist.	2414 Oct 21 20:52	29°♀44'58	3.95569 AU
	2409 Feb 14 15:07	15°♂		direct	2414 Dec 19 20:58	24°♀41'21	
retrograde	2409 Feb 28 17:09	15°♂18'34			2415 Feb 16 00:57	0°♂	
	2409 Mar 14 18:39	15°♂		evening set	2415 Apr 24 17:41	14°♂22'13	
opposition	2409 Apr 30 10:55	10°♂26'11	1°24'50		2415 Apr 27 09:12	15°♂	
min. Earth dist.	2409 May 01 17:40	10°♂16'21	4.43270 AU				
direct	2409 Jul 02 05:11	5°♂24'41		conjunction	2415 May 08 06:32	17°♂36'05	0°-53'-36
	2409 Sep 27 13:07	15°♂		minimum elong	2415 May 08 06:35	17°♂36'06	0°53'36
evening set	2409 Nov 05 07:43	23°♂02'07		max. Earth dist.	2415 May 10 08:26	18°♂05'54	5.98206 AU
max. Earth dist.	2409 Nov 15 23:57	25°♂22'56	6.39478 AU	morning rise	2415 May 21 22:10	20°♂51'16	
					2415 Jul 01 11:22	0°♂	
conjunction	2409 Nov 18 01:26	25°♂50'14	0°48'51	retrograde	2415 Sep 30 01:20	11°♂06'26	
minimum elong	2409 Nov 18 01:27	25°♂50'15	0°48'51	min. Earth dist.	2415 Nov 27 04:12	6°♂13'17	4.02971 AU
morning rise	2409 Nov 30 17:12	28°♂37'32		opposition	2415 Nov 28 14:53	6°♂01'27	0°-59'-44
	2409 Dec 07 00:12	0°♂		direct	2416 Jan 25 18:42	1°♂04'17	
retrograde	2410 Apr 01 09:30	15°♂51'59		evening set	2416 May 31 01:06	20°♂19'17	
opposition	2410 Jun 01 07:06	11°♂00'00	0°52'29				
min. Earth dist.	2410 Jun 02 19:47	10°♂48'19	4.34303 AU	conjunction	2416 Jun 13 18:52	23°♂30'21	0°-23'-9
direct	2410 Aug 02 15:47	6°♂00'21		minimum elong	2416 Jun 13 18:53	23°♂30'22	0°23'09
evening set	2410 Dec 06 07:54	24°♂01'28		max. Earth dist.	2416 Jun 16 02:10	24°♂02'26	6.09148 AU
max. Earth dist.	2410 Dec 16 23:32	26°♂25'56	6.27905 AU	morning rise	2416 Jun 27 13:52	26°♂41'48	
					2416 Jul 12 02:59	0°♂	
conjunction	2410 Dec 19 00:12	26°♂53'32	0°19'46	retrograde	2416 Nov 02 13:04	15°♂54'38	
minimum elong	2410 Dec 19 00:13	26°♂53'32	0°19'46	min. Earth dist.	2416 Dec 30 20:37	11°♂01'22	4.16216 AU
morning rise	2410 Dec 31 15:24	29°♂45'21		opposition	2417 Jan 01 04:05	10°♂50'42	0°-6'-24
	2411 Jan 01 17:23	0°♂		asc. node	2417 Feb 16 01:21	6°♂08'17	
retrograde	2411 May 05 02:36	17°♂52'03		direct	2417 Mar 01 06:53	5°♂50'43	
opposition	2411 Jul 04 23:20	12°♂58'58	0°02'48	evening set	2417 Jul 05 23:01	24°♂27'26	
min. Earth dist.	2411 Jul 06 07:12	12°♂48'46	4.20784 AU				
desc. node	2411 Jul 25 10:39	10°♂28'50		conjunction	2417 Jul 19 15:45	27°♂31'40	0°14'16
direct	2411 Sep 04 07:17	8°♂01'48		minimum elong	2417 Jul 19 15:44	27°♂31'40	0°14'16
evening set	2412 Jan 07 15:57	26°♂38'49		behind sun begin	2417 Jul 19 12:06	27°♂29'38	
max. Earth dist.	2412 Jan 18 21:37	29°♂16'18	6.13571 AU	behind sun end	2417 Jul 19 19:23	27°♂33'42	
				max. Earth dist.	2417 Jul 21 06:18	27°♂53'18	6.23595 AU
conjunction	2412 Jan 20 09:23	29°♂37'15	0°-16'-39		2417 Jul 30 16:36	0°♂	
minimum elong	2412 Jan 20 09:22	29°♂37'14	0°16'39	morning rise	2417 Aug 02 08:04	0°♂35'21	
	2412 Jan 22 00:13	0°♂			2417 Oct 16 11:03	15°♂	
morning rise	2412 Feb 02 03:34	2°♂36'17		retrograde	2417 Dec 04 19:19	18°♂39'59	
	2412 Mar 31 14:02	15°♂			2418 Jan 23 10:20	15°♂	
retrograde	2412 Jun 09 04:45	21°♂50'50		opposition	2418 Feb 02 15:14	13°♂39'09	0°45'36
opposition	2412 Aug 08 18:06	16°♂55'05	0°-51'-10	min. Earth dist.	2418 Feb 01 22:02	13°♂44'54	4.30519 AU
min. Earth dist.	2412 Aug 09 09:53	16°♂49'56	4.06710 AU	direct	2418 Apr 04 03:28	8°♂37'06	
	2412 Aug 23 21:45	15°♂			2418 Jun 11 06:29	15°♂	
direct	2412 Oct 07 16:10	12°♂00'13		evening set	2418 Aug 08 22:16	26°♂37'52	
	2412 Nov 20 09:19	15°♂					
	2413 Feb 04 15:18	0°♂		conjunction	2418 Aug 22 09:29	29°♂34'13	0°45'31
evening set	2413 Feb 09 22:56	1°♂15'50		minimum elong	2418 Aug 22 09:27	29°♂34'12	0°45'31
				max. Earth dist.	2418 Aug 22 23:03	29°♂41'38	6.36664 AU
conjunction	2413 Feb 22 20:49	4°♂21'32	0°-48'-55		2418 Aug 24 08:38	0°♂	
minimum elong	2413 Feb 22 20:47	4°♂21'31	0°48'56	morning rise	2418 Sep 04 18:26	2°♂29'19	
max. Earth dist.	2413 Feb 22 13:46	4°♂17'19	6.01036 AU	retrograde	2419 Jan 04 10:03	19°♂41'33	
morning rise	2413 Mar 07 20:36	7°♂28'32		opposition	2419 Mar 05 14:45	14°♂44'26	1°21'22
retrograde	2413 Jul 17 02:01	27°♂44'36		min. Earth dist.	2419 Mar 05 14:45	14°♂44'25	4.41450 AU
opposition	2413 Sep 15 04:39	22°♂45'08	-1°-29'-16	direct	2419 May 06 07:52	9°♂41'38	
min. Earth dist.	2413 Sep 14 22:28	22°♂47'11	3.97018 AU	evening set	2419 Sep 10 01:49	27°♂18'03	
direct	2413 Nov 12 18:33	17°♂51'32			2419 Sep 22 14:21	0°♂	
	2414 Feb 13 19:24	0°♂					

conjunction	2419 Sep 23 05:25	0°♄08'09	1°02'41	retrograde	2425 Jul 22 06:54	2°♃52'22	
minimum elong	2419 Sep 23 05:24	0°♄08'08	1°02'42		2425 Sep 03 19:59	30°♂♂	
max. Earth dist.	2419 Sep 22 13:55	29°♂59'46	6.44597 AU	opposition	2425 Sep 20 08:35	27°♂52'21	-1°-32'-3
morning rise	2419 Oct 06 06:23	2°♄56'52		min. Earth dist.	2425 Sep 19 22:46	27°♂55'37	3.95681 AU
retrograde	2420 Feb 03 12:03	19°♄42'33		direct	2425 Nov 17 17:57	22°♂58'42	
opposition	2420 Apr 04 00:18	14°♄48'31	1°33'55		2426 Jan 24 15:18	0°♃	
min. Earth dist.	2420 Apr 04 19:11	14°♄42'25	4.46005 AU	evening set	2426 Mar 23 08:42	12°♃44'10	
direct	2420 Jun 05 14:21	9°♄46'00					
evening set	2420 Oct 09 23:28	27°♄14'14		conjunction	2426 Apr 05 14:51	15°♃56'45	-1°-3'-49
max. Earth dist.	2420 Oct 21 07:04	29°♄41'03	6.45351 AU	minimum elong	2426 Apr 05 14:52	15°♃56'45	1°03'50
				max. Earth dist.	2426 Apr 06 20:33	16°♃14'46	5.94271 AU
conjunction	2420 Oct 22 20:47	0°♂01'30	1°02'36	morning rise	2426 Apr 19 00:01	19°♃10'58	
minimum elong	2420 Oct 22 20:48	0°♂01'31	1°02'36		2426 Jun 05 21:19	0°♂	
	2420 Oct 22 18:01	0°♂		retrograde	2426 Aug 29 12:49	9°♂54'44	
morning rise	2420 Nov 04 15:25	2°♂47'33		min. Earth dist.	2426 Oct 27 00:34	5°♂00'38	3.95430 AU
	2421 Jan 07 09:22	15°♂		opposition	2426 Oct 28 04:37	4°♂51'07	-1°-30'-13
retrograde	2421 Mar 04 22:07	19°♂35'22			2426 Dec 19 02:09	30°♂♂	
	2421 May 02 12:59	15°♂♂		direct	2426 Dec 25 01:23	29°♃56'16	
opposition	2421 May 04 18:00	14°♂43'05	1°21'37		2426 Dec 31 00:19	0°♂	
min. Earth dist.	2421 May 06 01:35	14°♂32'59	4.42989 AU		2427 Apr 10 05:19	15°♂	
direct	2421 Jul 06 12:07	9°♂41'44		evening set	2427 Apr 30 00:25	19°♂37'26	
	2421 Sep 07 04:19	15°♂					
evening set	2421 Nov 09 12:06	27°♂19'34		conjunction	2427 May 13 14:26	22°♂51'35	0°-50'-14
max. Earth dist.	2421 Nov 20 04:02	29°♂40'28	6.38729 AU	minimum elong	2427 May 13 14:28	22°♂51'37	0°50'16
	2421 Nov 21 15:21	0°♂♂		max. Earth dist.	2427 May 15 19:50	23°♂23'26	5.98727 AU
conjunction	2421 Nov 22 05:26	0°♂07'47	0°45'35	morning rise	2427 May 27 07:02	26°♂06'57	
minimum elong	2421 Nov 22 05:28	0°♂07'48	0°45'35		2427 Jun 12 23:08	0°♂	
morning rise	2421 Dec 04 20:43	2°♂55'14		retrograde	2427 Oct 05 02:51	16°♂17'05	
retrograde	2422 Apr 05 19:02	20°♂13'42		min. Earth dist.	2427 Dec 02 03:46	11°♂24'18	4.04090 AU
opposition	2422 Jun 05 17:30	15°♂21'41	0°46'31	opposition	2427 Dec 03 15:48	11°♂12'01	0°-52'-52
min. Earth dist.	2422 Jun 07 06:57	15°♂09'46	4.33100 AU	direct	2428 Jan 30 20:29	6°♂14'26	
direct	2422 Aug 07 00:43	10°♂22'18		evening set	2428 Jun 05 06:28	25°♂25'53	
evening set	2422 Dec 10 14:10	28°♂26'20		conjunction	2428 Jun 19 00:24	28°♂36'20	0°-17'-52
	2422 Dec 17 11:29	0°♂		minimum elong	2428 Jun 19 00:25	28°♂36'21	0°17'54
max. Earth dist.	2422 Dec 21 04:20	0°♂50'33	6.26328 AU	max. Earth dist.	2428 Jun 21 06:11	29°♂07'24	6.10746 AU
					2428 Jun 25 01:18	0°♂♂	
conjunction	2422 Dec 23 06:16	1°♂18'58	0°15'05	morning rise	2428 Jul 02 19:35	1°♂47'03	
minimum elong	2422 Dec 23 06:17	1°♂18'59	0°15'05	retrograde	2428 Nov 07 07:07	20°♂50'51	
behind sun begin	2422 Dec 23 03:12	1°♂17'14		asc. node	2428 Dec 25 15:47	17°♂17'31	
behind sun end	2422 Dec 23 09:21	1°♂20'43		opposition	2429 Jan 05 22:35	15°♂47'06	0°01'34
morning rise	2423 Jan 04 21:48	4°♂11'32		min. Earth dist.	2429 Jan 04 16:31	15°♂57'18	4.18097 AU
retrograde	2423 May 09 19:30	22°♂25'59		direct	2429 Mar 06 06:39	10°♂46'39	
desc. node	2423 Jun 06 08:24	21°♂16'24		evening set	2429 Jul 10 22:39	29°♂18'03	
opposition	2423 Jul 09 15:25	17°♂32'35	0°-4'-34		2429 Jul 14 02:04	0°♂	
min. Earth dist.	2423 Jul 10 22:16	17°♂22'40	4.18913 AU				
direct	2423 Sep 08 19:20	12°♂35'36		conjunction	2429 Jul 24 14:59	2°♂21'12	0°19'22
	2424 Jan 06 13:02	0°♂♂		minimum elong	2429 Jul 24 14:58	2°♂21'11	0°19'22
evening set	2424 Jan 12 03:10	1°♂17'53		max. Earth dist.	2429 Jul 26 04:29	2°♂42'09	6.25596 AU
conjunction	2424 Jan 24 21:12	4°♂17'21	0°-21'-30	morning rise	2429 Aug 07 06:17	5°♂23'35	
minimum elong	2424 Jan 24 21:11	4°♂17'21	0°21'31		2429 Sep 22 12:01	15°♂	
max. Earth dist.	2424 Jan 23 12:34	3°♂58'09	6.11571 AU	retrograde	2429 Dec 09 06:02	23°♂19'11	
morning rise	2424 Feb 06 15:52	7°♂17'30		min. Earth dist.	2430 Feb 06 11:36	18°♂24'02	4.32436 AU
	2424 Mar 11 22:20	15°♂		opposition	2430 Feb 07 03:19	18°♂18'47	0°51'57
retrograde	2424 Jun 14 05:58	26°♂41'58			2430 Mar 06 09:49	15°♂♂	
opposition	2424 Aug 13 17:04	21°♂45'48	0°-57'-41	direct	2430 Apr 08 19:38	13°♂16'31	
min. Earth dist.	2424 Aug 14 07:20	21°♂41'09	4.04750 AU		2430 May 12 16:13	15°♂	
direct	2424 Oct 12 09:56	16°♂51'10		evening set	2430 Aug 08 00:34	0°♂♂	
	2425 Jan 19 01:25	0°♂♂			2430 Aug 13 14:55	1°♂12'25	
evening set	2425 Feb 14 18:02	6°♂12'46		conjunction	2430 Aug 27 00:54	4°♂07'37	0°48'57
conjunction	2425 Feb 27 16:38	9°♂19'37	0°-52'-11	minimum elong	2430 Aug 27 00:52	4°♂07'36	0°48'57
minimum elong	2425 Feb 27 16:36	9°♂19'36	0°52'11	max. Earth dist.	2430 Aug 27 09:16	4°♂12'11	6.38308 AU
max. Earth dist.	2425 Feb 27 11:38	9°♂16'36	5.99285 AU	morning rise	2430 Sep 09 08:50	7°♂01'35	
morning rise	2425 Mar 12 17:41	12°♂27'55		retrograde	2431 Jan 08 17:52	24°♂07'46	
	2425 Jun 09 02:08	0°♃		opposition	2431 Mar 09 23:07	19°♂11'04	1°24'38
				min. Earth dist.	2431 Mar 10 02:36	19°♂09'56	4.42700 AU

direct	2431 May 10 20:52	14° \mathbb{M} 08'11		conjunction	2437 Mar 04 20:17	14° \mathbb{X} 35'59	0°-55'-15
	2431 Sep 06 13:08	0° \mathbb{L}		minimum elong	2437 Mar 04 20:15	14° \mathbb{X} 35'58	0°55'16
evening set	2431 Sep 14 12:18	1° \mathbb{L} 41'44		max. Earth dist.	2437 Mar 04 21:23	14° \mathbb{X} 36'38	5.97902 AU
				morning rise	2437 Mar 17 22:17	17° \mathbb{X} 45'22	
conjunction	2431 Sep 27 15:02	4° \mathbb{L} 31'09	1°03'44		2437 May 12 05:13	0° \mathbb{Y}	
minimum elong	2431 Sep 27 15:02	4° \mathbb{L} 31'08	1°03'44	retrograde	2437 Jul 27 20:03	8° \mathbb{Y} 16'16	
max. Earth dist.	2431 Sep 26 21:01	4° \mathbb{L} 21'25	6.45334 AU	opposition	2437 Sep 25 18:50	3° \mathbb{Y} 15'45	-1°-34'-13
morning rise	2431 Oct 10 14:49	7° \mathbb{L} 19'09		min. Earth dist.	2437 Sep 25 06:30	3° \mathbb{Y} 19'52	3.94972 AU
retrograde	2432 Feb 07 17:05	24° \mathbb{L} 02'52			2437 Oct 22 14:58	30° \mathbb{R} \mathbb{X}	
opposition	2432 Apr 08 07:41	19° \mathbb{L} 09'08	1°33'38	direct	2437 Nov 23 02:00	28° \mathbb{X} 22'08	
min. Earth dist.	2432 Apr 09 03:57	19° \mathbb{L} 02'37	4.46196 AU		2437 Dec 24 06:15	0° \mathbb{Y}	
direct	2432 Jun 09 22:24	14° \mathbb{L} 06'45		evening set	2438 Mar 28 17:00	18° \mathbb{Y} 09'08	
	2432 Oct 06 21:52	0° \mathbb{M}					
evening set	2432 Oct 14 07:07	1° \mathbb{M} 34'49		conjunction	2438 Apr 11 00:20	21° \mathbb{Y} 22'16	-1°-3'-24
max. Earth dist.	2432 Oct 25 11:17	4° \mathbb{M} 00'00	6.44972 AU	minimum elong	2438 Apr 11 00:21	21° \mathbb{Y} 22'16	1°03'24
				max. Earth dist.	2438 Apr 12 11:04	21° \mathbb{Y} 43'17	5.94315 AU
conjunction	2432 Oct 27 03:36	4° \mathbb{M} 21'55	1°01'09	morning rise	2438 Apr 24 10:46	24° \mathbb{Y} 37'01	
minimum elong	2432 Oct 27 03:37	4° \mathbb{M} 21'55	1°01'09		2438 May 17 08:04	0° \mathbb{B}	
morning rise	2432 Nov 08 21:34	7° \mathbb{M} 07'52			2438 Aug 21 00:41	15° \mathbb{B}	
	2432 Dec 17 04:22	15° \mathbb{M}		retrograde	2438 Sep 03 20:46	15° \mathbb{B} 18'54	
retrograde	2433 Mar 09 08:13	23° \mathbb{M} 57'59			2438 Sep 17 14:58	15° \mathbb{R} \mathbb{B}	
opposition	2433 May 09 03:58	19° \mathbb{M} 05'53	1°17'53	min. Earth dist.	2438 Nov 01 05:23	10° \mathbb{B} 25'27	3.96259 AU
min. Earth dist.	2433 May 10 13:57	18° \mathbb{M} 55'03	4.42049 AU	opposition	2438 Nov 02 12:18	10° \mathbb{B} 14'58	-1°-26'-44
	2433 Jun 15 23:22	15° \mathbb{R} \mathbb{M}		direct	2438 Dec 30 07:51	5° \mathbb{B} 19'51	
direct	2433 Jul 10 22:35	14° \mathbb{M} 04'46			2439 Mar 21 22:26	15° \mathbb{B}	
	2433 Aug 04 22:19	15° \mathbb{M}		evening set	2439 May 05 09:20	24° \mathbb{B} 57'32	
	2433 Nov 05 19:13	0° \mathbb{X}					
evening set	2433 Nov 13 20:00	1° \mathbb{X} 45'14		conjunction	2439 May 19 00:02	28° \mathbb{B} 11'20	0°-46'-29
max. Earth dist.	2433 Nov 24 09:22	4° \mathbb{X} 05'15	6.37291 AU	minimum elong	2439 May 19 00:05	28° \mathbb{B} 11'22	0°46'29
				max. Earth dist.	2439 May 21 06:07	28° \mathbb{B} 43'27	6.00242 AU
conjunction	2433 Nov 26 13:00	4° \mathbb{X} 33'53	0°41'56		2439 May 26 15:14	0° \mathbb{H}	
minimum elong	2433 Nov 26 13:02	4° \mathbb{X} 33'54	0°41'56	morning rise	2439 Jun 01 17:24	1° \mathbb{H} 26'16	
morning rise	2433 Dec 09 04:13	7° \mathbb{X} 21'52		retrograde	2439 Oct 10 02:07	21° \mathbb{H} 27'20	
retrograde	2434 Apr 10 10:26	24° \mathbb{X} 46'53		min. Earth dist.	2439 Dec 07 03:58	16° \mathbb{H} 34'32	4.06099 AU
opposition	2434 Jun 10 09:05	19° \mathbb{X} 54'46	0°40'00	opposition	2439 Dec 08 15:56	16° \mathbb{H} 22'15	0°-45'-37
min. Earth dist.	2434 Jun 11 21:56	19° \mathbb{X} 43'02	4.31242 AU	direct	2440 Feb 05 00:46	11° \mathbb{H} 24'12	
direct	2434 Aug 11 12:20	14° \mathbb{X} 55'41			2440 Jun 08 07:14	0° \mathbb{E}	
	2434 Dec 01 07:24	0° \mathbb{Z}		evening set	2440 Jun 10 10:18	0° \mathbb{E} 29'09	
evening set	2434 Dec 15 01:46	3° \mathbb{Z} 04'52					
max. Earth dist.	2434 Dec 25 18:36	5° \mathbb{Z} 31'15	6.24209 AU	conjunction	2440 Jun 24 04:27	3° \mathbb{E} 38'36	0°-12'-34
				minimum elong	2440 Jun 24 04:27	3° \mathbb{E} 38'36	0°12'36
conjunction	2434 Dec 27 18:04	5° \mathbb{Z} 58'25	0°10'02	behind sun begin	2440 Jun 23 23:15	3° \mathbb{E} 35'37	
minimum elong	2434 Dec 27 18:05	5° \mathbb{Z} 58'26	0°10'03	behind sun end	2440 Jun 24 09:40	3° \mathbb{E} 41'35	
behind sun begin	2434 Dec 27 11:38	5° \mathbb{Z} 54'45		max. Earth dist.	2440 Jun 26 10:09	4° \mathbb{E} 09'27	6.13081 AU
behind sun end	2434 Dec 28 00:33	6° \mathbb{Z} 02'06		morning rise	2440 Jul 07 23:11	6° \mathbb{E} 48'04	
morning rise	2435 Jan 09 09:45	8° \mathbb{Z} 51'58		asc. node	2440 Nov 04 05:04	25° \mathbb{E} 34'41	
desc. node	2435 Apr 15 12:10	25° \mathbb{Z} 57'00		retrograde	2440 Nov 11 22:35	25° \mathbb{E} 40'34	
retrograde	2435 May 14 20:46	27° \mathbb{Z} 16'16		min. Earth dist.	2441 Jan 09 09:44	20° \mathbb{E} 46'49	4.20505 AU
opposition	2435 Jul 14 14:43	22° \mathbb{Z} 22'38	0°-12'-25	opposition	2441 Jan 10 14:08	20° \mathbb{E} 37'13	0°09'19
min. Earth dist.	2435 Jul 15 20:39	22° \mathbb{Z} 13'01	4.16672 AU	direct	2441 Mar 11 02:50	15° \mathbb{E} 36'26	
direct	2435 Sep 13 14:05	17° \mathbb{Z} 26'04			2441 Jun 27 07:44	0° \mathbb{O}	
	2435 Dec 20 09:55	0° \mathbb{A}		evening set	2441 Jul 15 18:54	4° \mathbb{O} 01'12	
evening set	2436 Jan 16 21:48	6° \mathbb{A} 14'49					
max. Earth dist.	2436 Jan 28 09:26	8° \mathbb{A} 57'13	6.09407 AU	conjunction	2441 Jul 29 10:21	7° \mathbb{O} 03'01	0°24'11
				minimum elong	2441 Jul 29 10:20	7° \mathbb{O} 03'00	0°24'11
conjunction	2436 Jan 29 16:13	9° \mathbb{A} 15'25	0°-26'-32	max. Earth dist.	2441 Jul 30 18:55	7° \mathbb{O} 21'08	6.27863 AU
minimum elong	2436 Jan 29 16:12	9° \mathbb{A} 15'24	0°26'33	morning rise	2441 Aug 12 00:53	10° \mathbb{O} 04'04	
morning rise	2436 Feb 11 11:47	12° \mathbb{A} 16'51			2441 Sep 03 21:58	15° \mathbb{O}	
	2436 Feb 23 03:59	15° \mathbb{A}		retrograde	2441 Dec 13 13:30	27° \mathbb{O} 50'32	
	2436 May 15 19:31	0° \mathbb{K}		opposition	2442 Feb 11 12:16	22° \mathbb{O} 50'36	0°57'46
retrograde	2436 Jun 19 12:56	1° \mathbb{K} 51'50		min. Earth dist.	2442 Feb 10 23:31	22° \mathbb{O} 54'51	4.34390 AU
	2436 Jul 24 10:31	30° \mathbb{R} \mathbb{A}		direct	2442 Apr 13 09:14	17° \mathbb{O} 48'06	
opposition	2436 Aug 18 23:28	26° \mathbb{A} 55'12	-1°-4'-15		2442 Jul 22 05:33	0° \mathbb{M}	
min. Earth dist.	2436 Aug 19 09:42	26° \mathbb{A} 51'51	4.02877 AU	evening set	2442 Aug 18 03:46	5° \mathbb{M} 39'22	
direct	2436 Oct 17 10:23	22° \mathbb{A} 00'52					
	2436 Dec 30 05:50	0° \mathbb{K}		conjunction	2442 Aug 31 12:52	8° \mathbb{M} 33'33	0°51'59
evening set	2437 Feb 19 20:37	11° \mathbb{K} 28'02		minimum elong	2442 Aug 31 12:49	8° \mathbb{M} 33'32	0°51'59

max. Earth dist.	2442 Aug 31 18:04	8° \cap 36'23	6.39803 AU	min. Earth dist.	2448 Aug 24 15:34	2° \times 06'43	4.01339 AU
morning rise	2442 Sep 13 19:26	11° \cap 26'24			2448 Sep 10 08:00	30° $\mathbb{R}\approx$	
retrograde	2443 Jan 12 21:46	28° \cap 27'29		direct	2448 Oct 22 15:29	27° \approx 15'03	
opposition	2443 Mar 14 04:37	23° \cap 31'17	1°27'20		2448 Dec 03 01:08	0° \times	
min. Earth dist.	2443 Mar 14 10:26	23° \cap 29'23	4.43654 AU	evening set	2449 Feb 25 00:41	16° \times 46'05	
direct	2443 May 15 04:58	18° \cap 28'24					
	2443 Aug 20 21:28	0° $\underline{\Delta}$		conjunction	2449 Mar 10 01:16	19° \times 54'52	0°-57'-54
evening set	2443 Sep 18 20:31	6° $\underline{\Delta}$ 00'11		minimum elong	2449 Mar 10 01:14	19° \times 54'51	0°57'55
				max. Earth dist.	2449 Mar 10 07:32	19° \times 58'39	5.96975 AU
conjunction	2443 Oct 01 22:08	8° $\underline{\Delta}$ 49'04	1°04'25	morning rise	2449 Mar 23 04:25	23° \times 05'10	
minimum elong	2443 Oct 01 22:07	8° $\underline{\Delta}$ 49'04	1°04'24		2449 Apr 21 20:20	0° \mathbb{Y}	
max. Earth dist.	2443 Sep 30 22:37	8° $\underline{\Delta}$ 36'22	6.45661 AU	retrograde	2449 Aug 02 06:48	13° \mathbb{Y} 39'58	
morning rise	2443 Oct 14 21:06	11° $\underline{\Delta}$ 36'36		opposition	2449 Oct 01 04:52	8° \mathbb{Y} 38'52	-1°-35'-33
retrograde	2444 Feb 11 23:47	28° $\underline{\Delta}$ 19'49		min. Earth dist.	2449 Sep 30 12:31	8° \mathbb{Y} 44'20	3.94794 AU
opposition	2444 Apr 12 13:50	23° $\underline{\Delta}$ 26'24	1°32'53	direct	2449 Nov 28 08:14	3° \mathbb{Y} 45'11	
min. Earth dist.	2444 Apr 13 13:30	23° $\underline{\Delta}$ 18'47	4.45896 AU	evening set	2450 Apr 03 01:09	23° \mathbb{Y} 31'40	
direct	2444 Jun 14 06:31	18° $\underline{\Delta}$ 24'03					
	2444 Sep 20 08:35	0° \mathbb{M}		conjunction	2450 Apr 16 09:27	26° \mathbb{Y} 45'00	-1°-2'-26
evening set	2444 Oct 18 13:26	5° \mathbb{M} 53'30		minimum elong	2450 Apr 16 09:28	26° \mathbb{Y} 45'01	1°02'27
max. Earth dist.	2444 Oct 29 14:56	8° \mathbb{M} 17'33	6.44056 AU	max. Earth dist.	2450 Apr 17 23:11	27° \mathbb{Y} 07'49	5.94861 AU
				morning rise	2450 Apr 29 21:01	29° \mathbb{Y} 59'59	
conjunction	2444 Oct 31 09:29	8° \mathbb{M} 40'44	0°59'24		2450 Apr 29 21:03	0° \mathbb{X}	
minimum elong	2444 Oct 31 09:30	8° \mathbb{M} 40'44	0°59'24		2450 Jul 09 12:10	15° \mathbb{X}	
morning rise	2444 Nov 13 02:51	11° \mathbb{M} 26'50		retrograde	2450 Sep 09 01:50	20° \mathbb{X} 37'47	
	2444 Nov 29 18:23	15° \mathbb{M}		min. Earth dist.	2450 Nov 06 09:25	15° \mathbb{X} 44'29	3.97457 AU
retrograde	2445 Mar 13 17:21	28° \mathbb{M} 21'02		opposition	2450 Nov 07 17:47	15° \mathbb{X} 33'29	-1°-22'-33
opposition	2445 May 13 14:11	23° \mathbb{M} 29'00	1°13'47		2450 Nov 11 20:32	15° \mathbb{R}	
min. Earth dist.	2445 May 15 00:28	23° \mathbb{M} 18'04	4.40586 AU	direct	2451 Jan 04 14:47	10° \mathbb{R} 37'59	
direct	2445 Jul 15 05:55	18° \mathbb{M} 28'07			2451 Feb 26 01:34	15° \mathbb{R}	
	2445 Oct 20 00:50	0° \mathbb{J}			2451 May 09 21:11	0° \mathbb{I}	
evening set	2445 Nov 18 04:22	6° \mathbb{J} 12'47		evening set	2451 May 10 16:09	0° \mathbb{I} 11'09	
max. Earth dist.	2445 Nov 28 17:39	8° \mathbb{J} 33'24	6.35393 AU				
				conjunction	2451 May 24 07:46	3° \mathbb{I} 24'31	0°-42'-23
conjunction	2445 Nov 30 21:06	9° \mathbb{J} 02'05	0°38'03	minimum elong	2451 May 24 07:48	3° \mathbb{I} 24'33	0°42'24
minimum elong	2445 Nov 30 21:08	9° \mathbb{J} 02'06	0°38'03	max. Earth dist.	2451 May 26 16:11	3° \mathbb{I} 57'52	6.01980 AU
morning rise	2445 Dec 13 12:14	11° \mathbb{J} 50'48		morning rise	2451 Jun 07 01:29	6° \mathbb{I} 38'49	
retrograde	2446 Apr 15 05:39	29° \mathbb{J} 23'54		retrograde	2451 Oct 15 00:50	26° \mathbb{I} 30'20	
opposition	2446 Jun 15 02:30	24° \mathbb{J} 31'42	0°33'12	min. Earth dist.	2451 Dec 12 02:36	21° \mathbb{I} 37'21	4.08171 AU
min. Earth dist.	2446 Jun 16 15:53	24° \mathbb{J} 19'47	4.29022 AU	opposition	2451 Dec 13 13:40	21° \mathbb{I} 25'24	0°-38'-10
direct	2446 Aug 16 03:04	19° \mathbb{J} 32'57		direct	2452 Feb 10 02:06	16° \mathbb{I} 26'58	
	2446 Nov 13 17:35	0° \mathbb{Z}			2452 May 22 02:43	0° \mathbb{S}	
evening set	2446 Dec 19 15:24	7° \mathbb{Z} 48'19		evening set	2452 Jun 15 11:52	5° \mathbb{S} 25'41	
max. Earth dist.	2446 Dec 30 09:13	10° \mathbb{Z} 16'04	6.21855 AU				
				conjunction	2452 Jun 29 05:48	8° \mathbb{S} 34'04	0°-7'-16
conjunction	2447 Jan 01 07:53	10° \mathbb{Z} 42'54	0°04'54	minimum elong	2452 Jun 29 05:48	8° \mathbb{S} 34'04	0°07'17
minimum elong	2447 Jan 01 07:52	10° \mathbb{Z} 42'54	0°04'54	behind sun begin	2452 Jun 28 22:09	8° \mathbb{S} 29'43	
behind sun begin	2447 Jan 01 00:06	10° \mathbb{Z} 38'27		behind sun end	2452 Jun 29 13:27	8° \mathbb{S} 38'25	
behind sun end	2447 Jan 01 15:39	10° \mathbb{Z} 47'21		max. Earth dist.	2452 Jul 01 08:36	9° \mathbb{S} 03'06	6.15297 AU
morning rise	2447 Jan 14 00:03	13° \mathbb{Z} 37'36		morning rise	2452 Jul 13 00:22	11° \mathbb{S} 42'26	
desc. node	2447 Feb 22 12:04	22° \mathbb{Z} 13'29		asc. node	2452 Sep 13 22:20	24° \mathbb{S} 32'34	
	2447 Apr 11 18:37	0° \approx			2452 Oct 31 14:24	0° \mathbb{Q}	
retrograde	2447 May 19 22:25	2° \approx 12'26		retrograde	2452 Nov 16 10:20	0° \mathbb{Q} 24'41	
	2447 Jun 27 11:18	30° $\mathbb{R}\mathbb{Z}$			2452 Dec 02 04:44	30° $\mathbb{R}\mathbb{S}$	
opposition	2447 Jul 19 16:19	27° \mathbb{Z} 18'26	0°-20'-18	min. Earth dist.	2453 Jan 14 01:03	25° \mathbb{S} 30'49	4.22667 AU
min. Earth dist.	2447 Jul 20 18:52	27° \mathbb{Z} 09'52	4.14380 AU	opposition	2453 Jan 15 03:50	25° \mathbb{S} 21'46	0°16'53
direct	2447 Sep 18 09:23	22° \mathbb{Z} 22'14		direct	2453 Mar 15 20:34	20° \mathbb{S} 20'41	
	2447 Nov 30 16:38	0° \approx			2453 Jun 09 04:45	0° \mathbb{Q}	
evening set	2448 Jan 21 18:44	11° \approx 17'24		evening set	2453 Jul 20 13:31	8° \mathbb{Q} 40'02	
conjunction	2448 Feb 03 13:48	14° \approx 19'07	0°-31'-27	conjunction	2453 Aug 03 04:19	11° \mathbb{Q} 40'43	0°28'49
minimum elong	2448 Feb 03 13:47	14° \approx 19'06	0°31'28	minimum elong	2453 Aug 03 04:17	11° \mathbb{Q} 40'42	0°28'48
max. Earth dist.	2448 Feb 02 12:30	14° \approx 04'06	6.07391 AU	max. Earth dist.	2453 Aug 04 09:25	11° \mathbb{Q} 56'51	6.29819 AU
	2448 Feb 06 10:39	15° \approx		morning rise	2453 Aug 16 17:44	14° \mathbb{Q} 40'30	
morning rise	2448 Feb 16 10:02	17° \approx 21'44			2453 Aug 18 05:17	15° \mathbb{Q}	
	2448 Apr 15 04:16	0° \times			2453 Nov 09 00:36	0° \cap	
retrograde	2448 Jun 24 23:57	7° \times 06'21		retrograde	2453 Dec 17 21:30	2° \cap 19'16	
opposition	2448 Aug 24 08:04	2° \times 09'10	-1°-10'-21		2454 Jan 25 14:32	30° $\mathbb{R}\mathbb{Q}$	

opposition	2454 Feb 15 20:30	27°♏19'58	1°03'13	retrograde	2459 May 25 02:21	7°♊10'24	
min. Earth dist.	2454 Feb 15 10:44	27°♏23'12	4.35999 AU	opposition	2459 Jul 24 18:37	2°♊16'02	0°-28'-4
direct	2454 Apr 17 21:51	22°♏17'24		min. Earth dist.	2459 Jul 25 19:23	2°♊08'02	4.12539 AU
	2454 Jul 03 08:54	0°♎			2459 Aug 12 00:32	30°♊	
evening set	2454 Aug 22 16:16	10°♎05'17		direct	2459 Sep 23 08:30	27°♊20'13	
					2459 Nov 03 20:11	0°♊	
conjunction	2454 Sep 05 00:15	12°♎58'36	0°54'43		2460 Jan 20 23:25	15°♊	
minimum elong	2454 Sep 05 00:13	12°♎58'35	0°54'43	evening set	2460 Jan 26 15:27	16°♊20'00	
max. Earth dist.	2454 Sep 05 00:04	12°♎58'30	6.40933 AU				
morning rise	2454 Sep 18 05:51	15°♎50'35		conjunction	2460 Feb 08 11:03	19°♊22'37	0°-36'-5
	2454 Dec 04 23:23	0°♏		minimum elong	2460 Feb 08 11:01	19°♊22'35	0°36'05
retrograde	2455 Jan 17 03:25	2°♏47'59		max. Earth dist.	2460 Feb 07 13:47	19°♊09'57	6.05875 AU
	2455 Mar 01 12:29	30°♎		morning rise	2460 Feb 21 08:03	22°♊26'13	
opposition	2455 Mar 18 10:50	27°♎52'14	1°29'36		2460 Mar 25 11:56	0°♋	
min. Earth dist.	2455 Mar 18 19:38	27°♎49'22	4.44266 AU	retrograde	2460 Jun 30 07:06	12°♋18'14	
direct	2455 May 19 13:54	22°♎49'22		opposition	2460 Aug 29 14:46	7°♋20'31	-1°-15'-47
	2455 Aug 01 20:58	0°♏		min. Earth dist.	2460 Aug 29 18:07	7°♋19'25	4.00325 AU
evening set	2455 Sep 23 04:49	10°♏20'25		direct	2460 Oct 27 17:11	2°♋26'36	
max. Earth dist.	2455 Oct 05 04:09	12°♏55'07	6.45709 AU	evening set	2461 Mar 02 03:05	21°♋59'41	
conjunction	2455 Oct 06 05:43	13°♏08'56	1°04'45	conjunction	2461 Mar 15 04:28	25°♋09'02	-1°00'00
minimum elong	2455 Oct 06 05:42	13°♏08'56	1°04'44	minimum elong	2461 Mar 15 04:26	25°♋09'01	1°00'01
morning rise	2455 Oct 19 03:37	15°♏56'06		max. Earth dist.	2461 Mar 15 15:02	25°♋15'26	5.96542 AU
	2456 Jan 05 00:03	0°♌		morning rise	2461 Mar 28 08:40	28°♋19'59	
retrograde	2456 Feb 16 05:52	2°♌39'51			2461 Apr 04 07:57	0°♌	
	2456 Mar 29 21:40	30°♌		retrograde	2461 Aug 07 13:11	18°♌56'34	
opposition	2456 Apr 16 21:21	27°♌46'46	1°31'37	opposition	2461 Oct 06 11:19	13°♌54'52	-1°-36'00
min. Earth dist.	2456 Apr 17 22:25	27°♌38'43	4.45393 AU	min. Earth dist.	2461 Oct 05 16:21	14°♌01'14	3.94997 AU
direct	2456 Jun 18 13:39	22°♌44'41		direct	2461 Dec 03 13:30	9°♌01'00	
	2456 Sep 01 09:39	0°♌		evening set	2462 Apr 08 05:39	28°♌45'40	
evening set	2456 Oct 22 21:04	10°♌15'58			2462 Apr 13 09:26	0°♍	
max. Earth dist.	2456 Nov 02 18:59	12°♌38'33	6.43034 AU				
				conjunction	2462 Apr 21 15:10	1°♍59'08	-1°00'-59
conjunction	2456 Nov 04 16:21	13°♌03'21	0°57'16	minimum elong	2462 Apr 21 15:11	1°♍59'09	1°01'00
minimum elong	2456 Nov 04 16:23	13°♌03'22	0°57'16	max. Earth dist.	2462 Apr 23 09:30	2°♍24'39	5.95676 AU
	2456 Nov 13 14:01	15°♌		morning rise	2462 May 05 03:34	5°♍14'08	
morning rise	2456 Nov 17 09:23	15°♌49'42			2462 Jun 17 06:04	15°♍	
	2457 Feb 02 17:38	0°♍		retrograde	2462 Sep 14 04:25	25°♍46'44	
retrograde	2457 Mar 18 06:42	2°♍48'27		min. Earth dist.	2462 Nov 11 10:13	20°♍53'21	3.98790 AU
	2457 May 01 09:17	30°♌		opposition	2462 Nov 12 19:00	20°♍42'12	-1°-17'-51
opposition	2457 May 18 02:19	27°♌56'33	1°09'11	direct	2463 Jan 09 17:33	15°♍46'20	
min. Earth dist.	2457 May 19 14:21	27°♌45'04	4.39108 AU		2463 Apr 22 22:56	0°♎	
direct	2457 Jul 19 17:25	22°♌55'58		evening set	2463 May 15 19:01	5°♎14'44	
	2457 Sep 30 16:32	0°♍					
evening set	2457 Nov 22 14:00	10°♍44'45		conjunction	2463 May 29 11:05	8°♎27'33	0°-38'-7
max. Earth dist.	2457 Dec 03 03:28	13°♍06'03	6.33594 AU	minimum elong	2463 May 29 11:08	8°♎27'35	0°38'08
				max. Earth dist.	2463 May 31 18:33	9°♎00'10	6.03683 AU
conjunction	2457 Dec 05 06:41	13°♍34'43	0°33'53	morning rise	2463 Jun 12 05:24	11°♎41'15	
minimum elong	2457 Dec 05 06:42	13°♍34'44	0°33'53		2463 Sep 20 06:43	0°♏	
morning rise	2457 Dec 17 21:44	16°♍24'09		retrograde	2463 Oct 19 16:36	1°♏23'34	
	2458 Feb 26 00:05	0°♏			2463 Nov 17 20:49	30°♎	
retrograde	2458 Apr 19 23:37	4°♏05'07		min. Earth dist.	2463 Dec 16 20:09	26°♎30'39	4.10066 AU
	2458 Jun 13 16:45	30°♎		opposition	2463 Dec 18 07:00	26°♎18'46	0°-30'-44
opposition	2458 Jun 19 21:22	29°♎12'46	0°26'03	direct	2464 Feb 14 22:02	21°♎19'54	
min. Earth dist.	2458 Jun 21 08:42	29°♎01'29	4.27035 AU		2464 May 03 10:04	0°♏	
direct	2458 Aug 20 16:57	24°♎14'28		evening set	2464 Jun 20 09:47	10°♏13'19	
	2458 Oct 23 17:56	0°♏					
evening set	2458 Dec 24 05:52	12°♏35'04		conjunction	2464 Jul 04 03:41	13°♏20'49	0°-2'-6
desc. node	2459 Jan 01 15:00	14°♏30'44		minimum elong	2464 Jul 04 03:39	13°♏20'48	0°02'06
max. Earth dist.	2459 Jan 04 03:04	15°♏05'26	6.19865 AU	behind sun begin	2464 Jul 03 19:17	13°♏16'03	
				behind sun end	2464 Jul 04 12:02	13°♏25'33	
conjunction	2459 Jan 05 22:26	15°♏30'30	0°00'-24	max. Earth dist.	2464 Jul 06 03:30	13°♏48'02	6.17239 AU
minimum elong	2459 Jan 05 22:28	15°♏30'31	0°00'25	morning rise	2464 Jul 17 21:46	16°♏28'06	
behind sun begin	2459 Jan 05 14:30	15°♏25'56		asc. node	2464 Jul 26 00:19	18°♏17'07	
behind sun end	2459 Jan 06 06:25	15°♏35'06			2464 Sep 23 12:43	0°♐	
morning rise	2459 Jan 18 14:59	18°♏26'13		retrograde	2464 Nov 20 21:40	5°♐01'23	
	2459 Mar 14 10:14	0°♑		opposition	2465 Jan 19 14:40	29°♏58'56	0°24'05

min. Earth dist.	2465 Jan 18 14:51	0°♂06'58	4.24478 AU	min. Earth dist.	2470 Jun 26 02:43	3°♂39'36	4.25223 AU
	2465 Jan 19 11:32	30°♂♂			2470 Jul 29 04:37	30°♂♂	
direct	2465 Mar 20 12:16	24°♂♂57'35		direct	2470 Aug 25 08:50	28°♂♂52'49	
	2465 May 18 17:07	0°♂			2470 Sep 21 10:12	0°♂	
evening set	2465 Jul 25 05:33	13°♂12'44		desc. node	2470 Nov 11 07:19	7°♂08'53	
	2465 Aug 02 08:22	15°♂		evening set	2470 Dec 28 19:05	17°♂18'04	
				max. Earth dist.	2471 Jan 08 18:54	19°♂50'34	6.17990 AU
conjunction	2465 Aug 07 19:38	16°♂12'29	0°33'08	conjunction	2471 Jan 10 12:01	20°♂14'24	0°-5'-38
minimum elong	2465 Aug 07 19:36	16°♂12'28	0°33'09	minimum elong	2471 Jan 10 12:00	20°♂14'24	0°05'40
max. Earth dist.	2465 Aug 08 20:50	16°♂26'24	6.31360 AU	behind sun begin	2471 Jan 10 04:19	20°♂09'58	
morning rise	2465 Aug 21 08:11	19°♂11'15		behind sun end	2471 Jan 10 19:41	20°♂18'50	
	2465 Oct 13 23:35	0°♂		morning rise	2471 Jan 23 04:54	23°♂11'03	
retrograde	2465 Dec 22 02:28	6°♂43'53			2471 Feb 22 17:49	0°♂	
opposition	2466 Feb 20 03:19	1°♂45'03	1°08'10	retrograde	2471 May 30 02:44	12°♂04'14	
min. Earth dist.	2466 Feb 19 19:29	1°♂47'39	4.37195 AU	opposition	2471 Jul 29 19:06	7°♂09'29	0°-35'-36
	2466 Mar 05 16:06	30°♂♂		min. Earth dist.	2471 Jul 30 16:56	7°♂02'25	4.10746 AU
direct	2466 Apr 22 07:41	26°♂42'23		direct	2471 Sep 28 03:31	2°♂14'00	
	2466 Jun 09 07:40	0°♂			2472 Jan 04 00:10	15°♂	
evening set	2466 Aug 27 03:22	14°♂28'04		evening set	2472 Jan 31 11:01	21°♂18'41	
conjunction	2466 Sep 09 10:25	17°♂20'40	0°57'05	conjunction	2472 Feb 13 07:08	24°♂22'13	0°-40'-25
minimum elong	2466 Sep 09 10:23	17°♂20'39	0°57'05	minimum elong	2472 Feb 13 07:06	24°♂22'12	0°40'26
max. Earth dist.	2466 Sep 09 06:55	17°♂18'46	6.41710 AU	max. Earth dist.	2472 Feb 12 13:13	24°♂11'32	6.04307 AU
morning rise	2466 Sep 22 14:52	20°♂11'55		morning rise	2472 Feb 26 05:01	27°♂26'54	
	2466 Nov 10 14:27	0°♂			2472 Mar 08 01:11	0°♂	
retrograde	2467 Jan 21 08:36	7°♂06'42		retrograde	2472 Jul 05 14:07	17°♂26'56	
opposition	2467 Mar 22 16:45	2°♂11'25	1°31'19	opposition	2472 Sep 03 20:13	12°♂28'40	-1°-20'-39
min. Earth dist.	2467 Mar 23 04:04	2°♂07'45	4.44603 AU	min. Earth dist.	2472 Sep 03 20:47	12°♂28'29	3.99136 AU
	2467 Apr 09 03:41	30°♂♂		direct	2472 Nov 01 18:54	7°♂34'50	
direct	2467 May 23 22:33	27°♂08'40		evening set	2473 Mar 07 04:42	27°♂11'05	
	2467 Jul 07 22:40	0°♂			2473 Mar 18 20:11	0°♂	
evening set	2467 Sep 27 13:00	14°♂39'30					
max. Earth dist.	2467 Oct 09 07:17	17°♂11'42	6.45571 AU				
				conjunction	2473 Mar 20 07:16	0°♂21'15	-1°-1'-39
conjunction	2467 Oct 10 12:56	17°♂27'44	1°04'41	minimum elong	2473 Mar 20 07:15	0°♂21'15	1°01'39
minimum elong	2467 Oct 10 12:56	17°♂27'44	1°04'42	max. Earth dist.	2473 Mar 20 23:26	0°♂31'03	5.95847 AU
morning rise	2467 Oct 23 10:10	20°♂14'40		morning rise	2473 Apr 02 12:29	3°♂33'00	
	2467 Dec 11 07:18	0°♂		retrograde	2473 Aug 12 21:30	24°♂12'31	
retrograde	2468 Feb 20 13:29	6°♂59'21		opposition	2473 Oct 11 17:24	19°♂10'23	-1°-35'-44
opposition	2468 Apr 21 05:11	2°♂06'28	1°29'49	min. Earth dist.	2473 Oct 10 20:32	19°♂17'24	3.94896 AU
min. Earth dist.	2468 Apr 22 08:07	1°♂57'49	4.44814 AU	direct	2473 Dec 08 17:38	14°♂16'23	
	2468 May 08 04:35	30°♂♂			2474 Mar 27 11:14	0°♂	
direct	2468 Jun 22 22:20	27°♂04'31		evening set	2474 Apr 13 11:16	4°♂00'53	
	2468 Aug 07 14:23	0°♂					
evening set	2468 Oct 27 04:14	14°♂37'31		conjunction	2474 Apr 26 21:44	7°♂14'37	0°-59'-3
	2468 Oct 28 21:38	15°♂		minimum elong	2474 Apr 26 21:46	7°♂14'39	0°59'04
max. Earth dist.	2468 Nov 07 01:58	17°♂00'19	6.42053 AU	max. Earth dist.	2474 Apr 28 17:45	7°♂41'06	5.96152 AU
				morning rise	2474 May 10 11:24	10°♂29'54	
conjunction	2468 Nov 08 23:11	17°♂25'06	0°54'49		2474 May 29 16:07	15°♂	
minimum elong	2468 Nov 08 23:12	17°♂25'07	0°54'48		2474 Aug 25 18:25	0°♂	
morning rise	2468 Nov 21 15:36	20°♂11'39		retrograde	2474 Sep 19 06:11	0°♂58'35	
	2469 Jan 09 01:26	0°♂			2474 Oct 13 13:52	30°♂♂	
retrograde	2469 Mar 22 17:18	7°♂14'40		min. Earth dist.	2474 Nov 16 10:21	26°♂05'36	3.99791 AU
opposition	2469 May 22 14:26	2°♂22'46	1°04'08	opposition	2474 Nov 17 20:48	25°♂53'52	-1°-12'-32
min. Earth dist.	2469 May 24 02:10	2°♂11'23	4.37774 AU	direct	2475 Jan 14 19:35	20°♂57'36	
	2469 Jun 11 01:43	30°♂♂			2475 Apr 03 19:14	0°♂	
direct	2469 Jul 24 03:17	27°♂22'30		evening set	2475 May 20 23:55	10°♂22'52	
	2469 Sep 04 22:02	0°♂					
evening set	2469 Nov 26 23:01	15°♂14'35		conjunction	2475 Jun 03 16:43	13°♂35'21	0°-33'-30
max. Earth dist.	2469 Dec 07 12:04	17°♂36'15	6.31988 AU	minimum elong	2475 Jun 03 16:45	13°♂35'22	0°33'32
				max. Earth dist.	2475 Jun 06 00:12	14°♂07'53	6.05124 AU
conjunction	2469 Dec 09 15:21	18°♂05'04	0°29'31	morning rise	2475 Jun 17 11:22	16°♂48'32	
minimum elong	2469 Dec 09 15:22	18°♂05'05	0°29'32		2475 Aug 19 08:12	0°♂	
morning rise	2469 Dec 22 06:30	20°♂55'11		retrograde	2475 Oct 24 13:01	6°♂22'41	
	2470 Feb 03 08:22	0°♂		min. Earth dist.	2475 Dec 21 17:32	1°♂29'23	4.11769 AU
retrograde	2470 Apr 24 18:47	8°♂43'24		opposition	2475 Dec 23 02:40	1°♂18'07	0°-22'-57
opposition	2470 Jun 24 15:36	3°♂50'50	0°18'46		2476 Jan 01 19:05	30°♂♂	

direct	2476 Feb 19 21:45	26° Π 18'54		conjunction	2481 Dec 13 20:56	22° $\cancel{\text{X}}$ 27'50	0°25'09
	2476 Apr 08 20:04	0° S		minimum elong	2481 Dec 13 20:57	22° $\cancel{\text{X}}$ 27'51	0°25'09
asc. node	2476 Jun 04 08:04	10° S 27'22		morning rise	2481 Dec 26 11:55	25° $\cancel{\text{X}}$ 18'26	
evening set	2476 Jun 25 10:18	15° S 07'42			2482 Jan 16 20:31	0° S	
				retrograde	2482 Apr 29 08:15	13° S 12'57	
conjunction	2476 Jul 09 04:04	18° S 14'20	0°03'20	opposition	2482 Jun 29 05:56	8° S 20'09	0°11'38
minimum elong	2476 Jul 09 04:02	18° S 14'19	0°03'20	min. Earth dist.	2482 Jun 30 16:16	8° S 09'11	4.23612 AU
behind sun begin	2476 Jul 08 19:44	18° S 09'37		direct	2482 Aug 29 19:35	3° S 22'26	
behind sun end	2476 Jul 09 12:21	18° S 19'00		desc. node	2482 Sep 23 04:57	4° S 17'25	
max. Earth dist.	2476 Jul 11 02:34	18° S 40'40	6.19077 AU	evening set	2483 Jan 02 04:38	21° S 51'52	
morning rise	2476 Jul 22 21:42	21° S 20'36		max. Earth dist.	2483 Jan 13 05:04	24° S 25'23	6.16174 AU
	2476 Sep 01 11:17	0° Ω					
retrograde	2476 Nov 25 09:13	9° Ω 45'13		conjunction	2483 Jan 14 21:38	24° S 49'01	0°-10'-35
min. Earth dist.	2477 Jan 23 05:00	4° Ω 51'01	4.26310 AU	minimum elong	2483 Jan 14 21:38	24° S 49'00	0°10'35
opposition	2477 Jan 24 04:03	4° Ω 43'16	0°31'18	behind sun begin	2483 Jan 14 15:22	24° S 45'22	
	2477 Mar 11 12:55	30° R S		behind sun end	2483 Jan 15 03:54	24° S 52'38	
direct	2477 Mar 25 04:59	29° S 41'46		morning rise	2483 Jan 27 15:07	27° S 46'38	
	2477 Apr 08 00:58	0° Ω			2483 Feb 06 07:02	0° \approx	
	2477 Jul 16 17:29	15° Ω			2483 Apr 30 15:04	15° \approx	
evening set	2477 Jul 30 00:15	17° Ω 52'30		retrograde	2483 Jun 04 01:13	16° \approx 48'59	
					2483 Jul 08 15:18	15° R \approx	
conjunction	2477 Aug 12 13:23	20° Ω 51'10	0°37'23	opposition	2483 Aug 03 15:51	11° \approx 53'47	0°-42'-39
minimum elong	2477 Aug 12 13:21	20° Ω 51'09	0°37'23	min. Earth dist.	2483 Aug 04 12:08	11° \approx 47'12	4.08842 AU
max. Earth dist.	2477 Aug 13 10:35	21° Ω 02'50	6.33081 AU	direct	2483 Oct 02 20:11	6° \approx 58'27	
morning rise	2477 Aug 26 00:55	23° Ω 48'46			2483 Dec 16 12:12	15° \approx	
	2477 Sep 24 07:11	0° P		evening set	2484 Feb 05 03:13	26° \approx 08'46	
retrograde	2477 Dec 26 11:17	11° P 14'33		max. Earth dist.	2484 Feb 17 10:15	29° \approx 05'04	6.02500 AU
opposition	2478 Feb 24 12:26	6° P 16'18	1°12'51				
min. Earth dist.	2478 Feb 24 07:32	6° P 17'55	4.38709 AU	conjunction	2484 Feb 18 00:14	29° \approx 13'26	0°-44'-20
direct	2478 Apr 26 22:09	1° P 13'36		minimum elong	2484 Feb 18 00:11	29° \approx 13'25	0°44'22
evening set	2478 Aug 31 15:56	18° P 55'40			2484 Feb 21 05:55	0° X	
				morning rise	2484 Mar 01 22:53	2° X 19'16	
conjunction	2478 Sep 13 21:57	21° P 47'22	0°59'12	retrograde	2484 Jul 10 18:56	22° X 28'13	
minimum elong	2478 Sep 13 21:55	21° P 47'21	0°59'11	opposition	2484 Sep 08 22:26	17° X 29'29	-1°-24'-49
max. Earth dist.	2478 Sep 13 15:30	21° P 43'53	6.42922 AU	min. Earth dist.	2484 Sep 08 20:57	17° X 29'59	3.97623 AU
morning rise	2478 Sep 27 01:15	24° P 37'41		direct	2484 Nov 06 16:25	12° X 35'45	
	2478 Oct 22 17:28	0° A			2485 Mar 02 16:21	0° Y	
retrograde	2479 Jan 25 12:57	11° A 28'21		evening set	2485 Mar 12 04:50	2° Y 16'49	
opposition	2479 Mar 26 23:37	6° A 33'25	1°32'35				
min. Earth dist.	2479 Mar 27 12:18	6° A 29'18	4.45468 AU	conjunction	2485 Mar 25 08:23	5° Y 27'59	-1°-2'-47
direct	2479 May 28 07:47	1° A 30'43		minimum elong	2485 Mar 25 08:22	5° Y 27'59	1°02'48
evening set	2479 Oct 01 20:36	18° A 59'16		max. Earth dist.	2485 Mar 26 02:53	5° Y 39'13	5.94760 AU
				morning rise	2485 Apr 07 15:03	8° Y 40'51	
conjunction	2479 Oct 14 19:39	21° A 46'57	1°04'19	retrograde	2485 Aug 18 02:43	29° Y 24'39	
minimum elong	2479 Oct 14 19:39	21° A 46'58	1°04'19	opposition	2485 Oct 16 21:35	24° Y 22'03	-1°-34'-45
max. Earth dist.	2479 Oct 13 12:43	21° A 30'14	6.46033 AU	min. Earth dist.	2485 Oct 15 21:37	24° Y 30'08	3.94379 AU
morning rise	2479 Oct 27 15:52	24° A 33'21		direct	2485 Dec 13 19:06	19° Y 27'50	
	2479 Nov 22 16:50	0° M			2486 Mar 09 05:23	0° Z	
retrograde	2480 Feb 24 18:33	11° M 17'06		evening set	2486 Apr 18 16:30	9° Z 14'00	
opposition	2480 Apr 25 12:13	6° M 24'26	1°27'35				
min. Earth dist.	2480 Apr 26 16:50	6° M 15'17	4.44834 AU	conjunction	2486 May 02 04:18	12° Z 28'17	0°-56'-40
direct	2480 Jun 27 07:13	1° M 22'41		minimum elong	2486 May 02 04:20	12° Z 28'19	0°56'40
	2480 Oct 13 00:30	15° M		max. Earth dist.	2486 May 04 03:46	12° Z 56'49	5.96265 AU
evening set	2480 Oct 31 09:27	18° M 55'13			2486 May 12 17:12	15° Z	
max. Earth dist.	2480 Nov 11 03:32	21° M 16'18	6.41614 AU	morning rise	2486 May 15 18:58	15° Z 44'00	
					2486 Jul 21 16:01	0° II	
conjunction	2480 Nov 13 03:39	21° M 42'42	0°52'09	retrograde	2486 Sep 24 09:50	6° II 10'00	
minimum elong	2480 Nov 13 03:40	21° M 42'43	0°52'08	opposition	2486 Nov 22 22:42	1° II 05'05	-1°-6'-41
morning rise	2480 Nov 25 19:45	24° M 29'16		min. Earth dist.	2486 Nov 21 12:07	1° II 16'53	4.00501 AU
	2480 Dec 21 18:46	0° J			2486 Nov 30 23:13	30° R Z	
retrograde	2481 Mar 27 02:01	11° J 34'58		direct	2487 Jan 19 23:14	26° Z 08'25	
opposition	2481 May 26 23:58	6° J 43'00	0°58'54		2487 Mar 10 06:14	0° II	
min. Earth dist.	2481 May 28 12:41	6° J 31'17	4.36877 AU	evening set	2487 May 26 05:36	15° II 31'29	
direct	2481 Jul 28 12:18	1° J 42'53					
evening set	2481 Dec 01 04:36	19° J 36'54		conjunction	2487 Jun 08 23:03	18° II 43'40	0°-28'-38
max. Earth dist.	2481 Dec 11 18:25	21° J 59'22	6.30704 AU	minimum elong	2487 Jun 08 23:05	18° II 43'42	0°28'38
				max. Earth dist.	2487 Jun 11 08:08	19° II 17'01	6.06371 AU

morning rise	2487 Jun 22 18:02	21° Π 56'25		direct	2493 Aug 02 00:00	6° \mathcal{Z} 12'39	
	2487 Jul 29 01:53	0° \mathfrak{G}		evening set	2493 Dec 05 14:42	24° \mathcal{Z} 10'59	
retrograde	2487 Oct 29 08:25	11° \mathfrak{G} 22'36		max. Earth dist.	2493 Dec 16 03:16	26° \mathcal{Z} 33'28	6.28757 AU
opposition	2487 Dec 27 22:38	6° \mathfrak{G} 18'14	0°-15'00				
min. Earth dist.	2487 Dec 26 13:01	6° \mathfrak{G} 29'39	4.13406 AU	conjunction	2493 Dec 18 06:50	27° \mathcal{Z} 02'39	0°20'26
direct	2488 Feb 24 20:03	1° \mathfrak{G} 18'38		minimum elong	2493 Dec 18 06:51	27° \mathcal{Z} 02'40	0°20'25
asc. node	2488 Apr 13 03:53	4° \mathfrak{G} 53'02		morning rise	2493 Dec 30 22:08	29° \mathcal{Z} 54'08	
evening set	2488 Jun 30 11:56	20° \mathfrak{G} 02'53			2493 Dec 31 08:33	0° \mathfrak{Z}	
				retrograde	2494 May 04 05:53	17° \mathfrak{Z} 57'37	
conjunction	2488 Jul 14 05:13	23° \mathfrak{G} 08'29	0°08'39	opposition	2494 Jul 04 02:31	13° \mathfrak{Z} 04'35	0°04'00
minimum elong	2488 Jul 14 05:12	23° \mathfrak{G} 08'29	0°08'38	min. Earth dist.	2494 Jul 05 11:37	12° \mathfrak{Z} 53'58	4.21421 AU
behind sun begin	2488 Jul 13 22:00	23° \mathfrak{G} 04'26		desc. node	2494 Aug 02 09:52	9° \mathfrak{Z} 40'32	
behind sun end	2488 Jul 14 12:24	23° \mathfrak{G} 12'31		direct	2494 Sep 03 11:53	8° \mathfrak{Z} 07'09	
max. Earth dist.	2488 Jul 16 00:26	23° \mathfrak{G} 32'53	6.20954 AU	evening set	2495 Jan 06 20:38	26° \mathfrak{Z} 42'51	
morning rise	2488 Jul 27 22:22	26° \mathfrak{G} 13'40		max. Earth dist.	2495 Jan 18 01:22	29° \mathfrak{Z} 19'34	6.13941 AU
	2488 Aug 14 01:12	0° \mathcal{Q}					
retrograde	2488 Nov 29 22:50	14° \mathcal{Q} 29'14		conjunction	2495 Jan 19 14:12	29° \mathfrak{Z} 41'07	0°-15'-47
opposition	2489 Jan 28 17:53	9° \mathcal{Q} 27'41	0°38'20	minimum elong	2495 Jan 19 14:11	29° \mathfrak{Z} 41'07	0°15'47
min. Earth dist.	2489 Jan 27 21:24	9° \mathcal{Q} 34'33	4.28224 AU	behind sun begin	2495 Jan 19 12:10	29° \mathfrak{Z} 39'56	
direct	2489 Mar 30 00:41	4° \mathcal{Q} 25'50		behind sun end	2495 Jan 19 16:12	29° \mathfrak{Z} 42'17	
	2489 Jun 28 19:31	15° \mathcal{Q}			2495 Jan 20 22:27	0° \approx	
evening set	2489 Aug 03 18:55	22° \mathcal{Q} 31'40		morning rise	2495 Feb 01 08:06	2° \approx 39'55	
					2495 Mar 31 11:34	15° \approx	
conjunction	2489 Aug 17 07:16	25° \mathcal{Q} 29'13	0°41'24	retrograde	2495 Jun 09 07:38	21° \approx 52'53	
minimum elong	2489 Aug 17 07:14	25° \mathcal{Q} 29'12	0°41'24	opposition	2495 Aug 08 20:04	16° \approx 57'20	0°-49'-53
max. Earth dist.	2489 Aug 18 02:19	25° \mathcal{Q} 39'40	6.34854 AU	min. Earth dist.	2495 Aug 09 14:07	16° \approx 51'28	4.06769 AU
morning rise	2489 Aug 30 17:32	28° \mathcal{Q} 25'35			2495 Aug 24 07:09	15° \mathcal{R} \approx	
	2489 Sep 07 00:00	0° \mathfrak{P}		direct	2495 Oct 07 18:45	12° \approx 02'22	
retrograde	2489 Dec 30 17:56	15° \mathfrak{P} 44'22			2495 Nov 20 06:04	15° \approx	
opposition	2490 Feb 28 21:33	10° \mathfrak{P} 46'34	1°17'06		2496 Feb 04 14:41	0° \mathfrak{H}	
min. Earth dist.	2490 Feb 28 18:08	10° \mathfrak{P} 47'42	4.40194 AU	evening set	2496 Feb 10 03:16	1° \mathfrak{H} 18'48	
direct	2490 May 01 10:26	5° \mathfrak{P} 43'47					
evening set	2490 Sep 05 04:20	23° \mathfrak{P} 22'24		conjunction	2496 Feb 23 00:55	4° \mathfrak{H} 24'34	0°-48'-12
				minimum elong	2496 Feb 23 00:53	4° \mathfrak{H} 24'33	0°48'13
conjunction	2490 Sep 18 09:08	26° \mathfrak{P} 13'13	1°00'59	max. Earth dist.	2496 Feb 22 14:03	4° \mathfrak{H} 18'02	6.00773 AU
minimum elong	2490 Sep 18 09:07	26° \mathfrak{P} 13'12	1°00'59	morning rise	2496 Mar 07 00:47	7° \mathfrak{H} 31'41	
max. Earth dist.	2490 Sep 17 22:16	26° \mathfrak{P} 07'21	6.43974 AU	retrograde	2496 Jul 16 04:45	27° \mathfrak{H} 48'55	
morning rise	2490 Oct 01 11:21	29° \mathfrak{P} 02'40		opposition	2496 Sep 14 07:52	22° \mathfrak{H} 49'38	-1°-28'-33
	2490 Oct 05 22:32	0° \mathfrak{A}		min. Earth dist.	2496 Sep 14 02:03	22° \mathfrak{H} 51'34	3.96458 AU
retrograde	2491 Jan 29 19:50	15° \mathfrak{A} 50'02		direct	2496 Nov 11 21:19	17° \mathfrak{H} 56'00	
opposition	2491 Mar 31 07:04	10° \mathfrak{A} 55'33	1°33'21		2497 Feb 12 13:03	0° \mathfrak{Y}	
min. Earth dist.	2491 Mar 31 23:07	10° \mathfrak{A} 50'21	4.46015 AU	evening set	2497 Mar 17 11:37	7° \mathfrak{Y} 40'11	
direct	2491 Jun 01 19:04	5° \mathfrak{A} 52'55					
evening set	2491 Oct 06 04:57	23° \mathfrak{A} 20'26		conjunction	2497 Mar 30 16:27	10° \mathfrak{Y} 52'08	-1°-3'-29
max. Earth dist.	2491 Oct 17 16:39	25° \mathfrak{A} 49'08	6.46007 AU	minimum elong	2497 Mar 30 16:27	10° \mathfrak{Y} 52'08	1°03'30
				max. Earth dist.	2497 Mar 31 17:06	11° \mathfrak{Y} 07'07	5.94292 AU
conjunction	2491 Oct 19 03:10	26° \mathfrak{A} 07'48	1°03'36	morning rise	2497 Apr 13 00:11	14° \mathfrak{Y} 05'44	
minimum elong	2491 Oct 19 03:11	26° \mathfrak{A} 07'49	1°03'35		2497 Jun 27 18:21	0° \mathfrak{B}	
morning rise	2491 Oct 31 22:37	28° \mathfrak{A} 53'55		retrograde	2497 Aug 23 14:08	4° \mathfrak{B} 50'39	
	2491 Nov 06 01:54	0° \mathfrak{M}			2497 Oct 20 18:07	30° \mathcal{R} \mathfrak{Y}	
	2492 Feb 08 17:38	15° \mathfrak{M}		min. Earth dist.	2497 Oct 21 05:05	29° \mathfrak{Y} 56'18	3.94692 AU
retrograde	2492 Feb 29 01:45	15° \mathfrak{M} 38'37		opposition	2497 Oct 22 06:50	29° \mathfrak{Y} 47'35	-1°-32'-54
	2492 Mar 20 10:54	15° \mathcal{R} \mathfrak{M}		direct	2497 Dec 19 04:16	24° \mathfrak{Y} 53'08	
opposition	2492 Apr 29 20:57	10° \mathfrak{M} 46'08	1°24'51		2498 Feb 14 01:40	0° \mathfrak{B}	
min. Earth dist.	2492 May 01 02:51	10° \mathfrak{M} 36'34	4.44246 AU	evening set	2498 Apr 24 01:54	14° \mathfrak{B} 37'21	
direct	2492 Jul 01 15:36	5° \mathfrak{M} 44'32			2498 Apr 25 15:53	15° \mathfrak{B}	
	2492 Sep 25 08:21	15° \mathfrak{M}					
evening set	2492 Nov 04 16:52	23° \mathfrak{M} 18'52		conjunction	2498 May 07 14:44	17° \mathfrak{B} 51'38	0°-53'-46
max. Earth dist.	2492 Nov 15 10:13	25° \mathfrak{M} 39'55	6.40501 AU	minimum elong	2498 May 07 14:46	17° \mathfrak{B} 51'39	0°53'47
				max. Earth dist.	2498 May 09 18:03	18° \mathfrak{B} 22'21	5.97330 AU
conjunction	2492 Nov 17 10:42	26° \mathfrak{M} 06'36	0°49'06	morning rise	2498 May 21 06:20	21° \mathfrak{B} 07'13	
minimum elong	2492 Nov 17 10:44	26° \mathfrak{M} 06'37	0°49'06		2498 Jun 29 10:51	0° \mathfrak{I}	
morning rise	2492 Nov 30 02:20	28° \mathfrak{M} 53'29		retrograde	2498 Sep 29 12:16	11° \mathfrak{I} 25'56	
	2492 Dec 05 04:21	0° \mathcal{Z}		min. Earth dist.	2498 Nov 26 13:29	6° \mathfrak{I} 33'12	4.02205 AU
retrograde	2493 Mar 31 15:09	16° \mathcal{Z} 04'21		opposition	2498 Nov 28 01:35	6° \mathfrak{I} 20'54	-1°00'-15
opposition	2493 May 31 13:29	11° \mathcal{Z} 12'25	0°53'07	direct	2499 Jan 25 03:27	1° \mathfrak{I} 23'49	
min. Earth dist.	2493 Jun 02 03:03	11° \mathcal{Z} 00'28	4.35290 AU	evening set	2499 May 31 11:43	20° \mathfrak{I} 40'58	

conjunction	2499 Jun 14 05:20	23°II52'16	0°-23'-33	minimum elong	2504 Nov 22 17:24	0°𐌶29'57	0°45'49
minimum elong	2499 Jun 14 05:21	23°II52'17	0°23'34	morning rise	2504 Dec 05 08:54	3°𐌶17'25	
max. Earth dist.	2499 Jun 16 12:43	24°II24'27	6.08539 AU	retrograde	2505 Apr 06 05:44	20°𐌶35'19	
morning rise	2499 Jun 28 00:29	27°II04'01		opposition	2505 Jun 06 04:05	15°𐌶43'20	0°47'03
	2499 Jul 10 21:28	0°𐌶		min. Earth dist.	2505 Jun 07 17:08	15°𐌶31'31	4.33217 AU
retrograde	2499 Nov 03 01:55	16°𐌶19'01		direct	2505 Aug 07 10:36	10°𐌶43'51	
min. Earth dist.	2499 Dec 31 09:09	11°𐌶25'41	4.15787 AU	evening set	2505 Dec 11 02:08	28°𐌶48'04	
opposition	2500 Jan 01 17:02	11°𐌶14'51	0°-7'-6		2505 Dec 16 09:18	0°𐌶	
asc. node	2500 Feb 21 16:30	6°𐌶21'29		max. Earth dist.	2505 Dec 21 17:21	1°𐌶12'46	6.26437 AU
direct	2500 Mar 01 20:16	6°𐌶14'48					
evening set	2500 Jul 06 10:31	24°𐌶52'01		conjunction	2505 Dec 23 18:26	1°𐌶40'43	0°15'33
				minimum elong	2505 Dec 23 18:27	1°𐌶40'44	0°15'33
conjunction	2500 Jul 20 03:27	27°𐌶56'22	0°13'46	behind sun begin	2505 Dec 23 16:02	1°𐌶39'22	
minimum elong	2500 Jul 20 03:26	27°𐌶56'22	0°13'46	behind sun end	2505 Dec 23 20:52	1°𐌶42'06	
behind sun begin	2500 Jul 19 23:15	27°𐌶54'01		morning rise	2506 Jan 05 09:51	4°𐌶33'14	
behind sun end	2500 Jul 20 07:37	27°𐌶58'42		retrograde	2506 May 10 06:57	22°𐌶46'58	
max. Earth dist.	2500 Jul 21 21:03	28°𐌶19'44	6.23355 AU	desc. node	2506 Jun 12 12:21	21°𐌶07'01	
	2500 Jul 29 07:53	0°𐌶		opposition	2506 Jul 10 01:37	17°𐌶53'44	0°-3'-46
morning rise	2500 Aug 02 19:39	1°𐌶00'07		min. Earth dist.	2506 Jul 11 09:36	17°𐌶43'29	4.19017 AU
	2500 Oct 13 23:55	15°𐌶		direct	2506 Sep 09 06:21	12°𐌶56'45	
retrograde	2500 Dec 05 08:11	19°𐌶05'26			2507 Jan 05 11:59	0°≈	
	2501 Jan 27 05:22	15°𐌶𐌶		evening set	2507 Jan 12 15:08	1°≈39'14	
min. Earth dist.	2501 Feb 02 10:03	14°𐌶10'36	4.30432 AU	max. Earth dist.	2507 Jan 23 22:27	4°≈18'19	6.11664 AU
opposition	2501 Feb 03 04:40	14°𐌶04'22	0°44'52				
direct	2501 Apr 04 15:45	9°𐌶02'19		conjunction	2507 Jan 25 09:01	4°≈38'39	0°-20'-56
	2501 Jun 09 06:07	15°𐌶		minimum elong	2507 Jan 25 09:00	4°≈38'38	0°20'57
evening set	2501 Aug 09 09:59	27°𐌶02'31		morning rise	2507 Feb 07 03:47	7°≈38'45	
					2507 Mar 11 18:14	15°≈	
conjunction	2501 Aug 22 21:08	29°𐌶58'51	0°45'03	retrograde	2507 Jun 15 15:03	27°≈02'30	
minimum elong	2501 Aug 22 21:06	29°𐌶58'49	0°45'02	opposition	2507 Aug 15 03:01	22°≈06'26	0°-56'-52
	2501 Aug 22 23:15	0°𐌶		min. Earth dist.	2507 Aug 15 16:42	22°≈01'59	4.04838 AU
max. Earth dist.	2501 Aug 23 10:16	0°𐌶06'01	6.36686 AU	direct	2507 Oct 13 19:37	17°≈11'49	
morning rise	2501 Sep 05 06:25	2°𐌶54'01			2508 Jan 18 23:34	0°𐌶	
retrograde	2502 Jan 04 23:42	20°𐌶06'12		evening set	2508 Feb 16 05:33	6°𐌶33'33	
opposition	2502 Mar 06 03:47	15°𐌶08'53	1°20'46				
min. Earth dist.	2502 Mar 06 04:14	15°𐌶08'44	4.41538 AU	conjunction	2508 Feb 29 04:10	9°𐌶40'20	0°-51'-42
direct	2502 May 06 21:28	10°𐌶05'59		minimum elong	2508 Feb 29 04:08	9°𐌶40'19	0°51'43
evening set	2502 Sep 10 13:19	27°𐌶41'43		max. Earth dist.	2508 Feb 28 23:57	9°𐌶37'48	5.99377 AU
	2502 Sep 21 06:16	0°𐌶		morning rise	2508 Mar 13 04:52	12°𐌶48'29	
					2508 Jun 06 22:28	0°𐌶	
conjunction	2502 Sep 23 17:17	0°𐌶31'52	1°02'22	retrograde	2508 Jul 22 18:00	3°𐌶12'15	
minimum elong	2502 Sep 23 17:16	0°𐌶31'52	1°02'23		2508 Sep 06 23:16	30°𐌶𐌶	
max. Earth dist.	2502 Sep 23 03:18	0°𐌶24'19	6.44723 AU	opposition	2508 Sep 20 18:36	28°𐌶12'23	-1°-31'-32
morning rise	2502 Oct 06 18:19	3°𐌶20'36		min. Earth dist.	2508 Sep 20 10:00	28°𐌶15'15	3.95764 AU
retrograde	2503 Feb 03 23:06	20°𐌶05'57		direct	2508 Nov 18 05:42	23°𐌶18'48	
opposition	2503 Apr 05 12:23	15°𐌶11'48	1°33'37		2509 Jan 23 06:46	0°𐌶	
min. Earth dist.	2503 Apr 06 06:09	15°𐌶06'04	4.46147 AU	evening set	2509 Mar 23 19:26	13°𐌶04'07	
direct	2503 Jun 07 01:02	10°𐌶09'15					
evening set	2503 Oct 11 11:10	27°𐌶37'02		conjunction	2509 Apr 06 01:19	16°𐌶16'33	-1°-3'-38
	2503 Oct 22 11:48	0°𐌶		minimum elong	2509 Apr 06 01:19	16°𐌶16'33	1°03'39
max. Earth dist.	2503 Oct 22 18:49	0°𐌶03'49	6.45503 AU	max. Earth dist.	2509 Apr 07 06:47	16°𐌶34'25	5.94340 AU
				morning rise	2509 Apr 19 10:17	19°𐌶30'39	
conjunction	2503 Oct 24 08:34	0°𐌶24'17	1°02'33		2509 Jun 04 17:04	0°𐌶	
minimum elong	2503 Oct 24 08:35	0°𐌶24'17	1°02'32	retrograde	2509 Aug 29 22:10	10°𐌶13'59	
morning rise	2503 Nov 06 03:24	3°𐌶10'21		min. Earth dist.	2509 Oct 27 10:00	5°𐌶20'14	3.95496 AU
	2504 Jan 06 10:18	15°𐌶		opposition	2509 Oct 28 14:46	5°𐌶10'30	-1°-30'-14
retrograde	2504 Mar 05 10:41	19°𐌶57'43		direct	2509 Dec 25 10:34	0°𐌶15'48	
opposition	2504 May 05 05:27	15°𐌶05'26	1°21'43		2510 Apr 09 05:37	15°𐌶	
	2504 May 05 22:29	15°𐌶𐌶		evening set	2510 Apr 30 10:11	19°𐌶56'33	
min. Earth dist.	2504 May 06 13:59	14°𐌶55'03	4.43132 AU				
direct	2504 Jul 07 00:32	10°𐌶04'03		conjunction	2510 May 13 23:47	23°𐌶10'32	0°-50'-27
	2504 Sep 05 05:40	15°𐌶		minimum elong	2510 May 13 23:49	23°𐌶10'34	0°50'28
evening set	2504 Nov 09 23:53	27°𐌶41'41		max. Earth dist.	2510 May 16 03:53	23°𐌶41'37	5.98772 AU
	2504 Nov 20 11:11	0°𐌶		morning rise	2510 May 27 16:14	26°𐌶25'47	
max. Earth dist.	2504 Nov 20 14:30	0°𐌶01'50	6.38856 AU		2510 Jun 11 23:20	0°𐌶	
				retrograde	2510 Oct 05 12:15	16°𐌶36'07	
conjunction	2504 Nov 22 17:22	0°𐌶29'56	0°45'49	min. Earth dist.	2510 Dec 02 14:17	11°𐌶43'19	4.04102 AU

opposition	2510 Dec 04 02:17	11°II31'02	0°-53'-25	conjunction	2516 Nov 27 01:38	4°X58'24	0°42'11
direct	2511 Jan 31 07:43	6°II33'32		minimum elong	2516 Nov 27 01:40	4°X58'25	0°42'11
evening set	2511 Jun 06 15:26	25°II44'34		morning rise	2516 Dec 09 16:59	7°X46'27	
				retrograde	2517 Apr 10 23:50	25°X11'21	
conjunction	2511 Jun 20 09:23	28°II54'59	0°-18'-23	opposition	2517 Jun 10 20:43	20°X19'20	0°40'32
minimum elong	2511 Jun 20 09:24	28°II55'00	0°18'24	min. Earth dist.	2517 Jun 12 10:23	20°X07'19	4.31284 AU
max. Earth dist.	2511 Jun 22 16:55	29°II27'05	6.10734 AU	direct	2517 Aug 12 01:00	15°X20'13	
	2511 Jun 25 01:54	0°☾			2517 Nov 29 23:18	0°☾	
morning rise	2511 Jul 04 04:16	2°☾05'38		evening set	2517 Dec 15 14:47	3°☾29'34	
retrograde	2511 Nov 08 18:24	21°☾09'59		max. Earth dist.	2517 Dec 26 06:51	5°☾55'28	6.24370 AU
asc. node	2512 Jan 02 06:48	16°☾47'35					
min. Earth dist.	2512 Jan 06 02:55	16°☾16'30	4.18056 AU	conjunction	2517 Dec 28 07:08	6°☾23'05	0°10'30
opposition	2512 Jan 07 09:16	16°☾06'14	0°00'42	minimum elong	2517 Dec 28 07:09	6°☾23'05	0°10'31
direct	2512 Mar 06 16:45	11°☾05'53		behind sun begin	2517 Dec 28 00:52	6°☾19'31	
evening set	2512 Jul 11 07:37	29°☾37'01		behind sun end	2517 Dec 28 13:25	6°☾26'39	
	2512 Jul 13 00:55	0°♂		morning rise	2518 Jan 09 22:56	9°☾16'35	
				desc. node	2518 Apr 21 12:47	26°☾47'10	
conjunction	2512 Jul 24 23:47	2°♂40'10	0°18'45	retrograde	2518 May 15 06:33	27°☾39'39	
minimum elong	2512 Jul 24 23:45	2°♂40'09	0°18'45	opposition	2518 Jul 15 01:38	22°☾46'03	0°-11'-36
max. Earth dist.	2512 Jul 26 12:33	3°♂00'43	6.25507 AU	min. Earth dist.	2518 Jul 16 06:23	22°☾36'49	4.16987 AU
morning rise	2512 Aug 07 15:19	5°♂42'40		direct	2518 Sep 14 00:39	17°☾49'27	
	2512 Sep 21 03:59	15°♂			2518 Dec 19 03:59	0°≈	
retrograde	2512 Dec 09 16:40	23°♂39'07		evening set	2519 Jan 17 10:05	6°≈37'15	
opposition	2513 Feb 07 14:17	18°♂38'34	0°51'06	max. Earth dist.	2519 Jan 28 23:09	9°≈20'18	6.09868 AU
min. Earth dist.	2513 Feb 06 22:31	18°♂43'50	4.32313 AU				
	2513 Mar 10 08:10	15°♂♂		conjunction	2519 Jan 30 04:28	9°≈37'37	0°-25'-57
direct	2513 Apr 09 05:52	13°♂36'18		minimum elong	2519 Jan 30 04:27	9°≈37'36	0°25'58
	2513 May 09 13:21	15°♂		morning rise	2519 Feb 11 23:44	12°≈38'45	
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evening set	2513 Aug 14 00:05	1°♂32'16			2519 May 14 04:23	0°✕	
				retrograde	2519 Jun 20 23:03	2°✕11'09	
conjunction	2513 Aug 27 10:25	4°♂27'37	0°48'25		2519 Jul 28 22:06	30°♂≈	
minimum elong	2513 Aug 27 10:23	4°♂27'36	0°48'25	opposition	2519 Aug 20 09:06	27°≈14'35	-1°-3'-20
max. Earth dist.	2513 Aug 27 20:33	4°♂33'09	6.38163 AU	min. Earth dist.	2519 Aug 20 20:22	27°≈10'54	4.03449 AU
morning rise	2513 Sep 09 18:23	7°♂21'42		direct	2519 Oct 18 22:37	22°≈20'11	
retrograde	2514 Jan 09 04:50	24°♂28'44			2519 Dec 30 02:00	0°✕	
opposition	2514 Mar 10 10:09	19°♂31'57	1°24'01	evening set	2520 Feb 21 06:44	11°✕45'09	
min. Earth dist.	2514 Mar 10 12:50	19°♂31'05	4.42533 AU				
direct	2514 May 11 06:22	14°♂29'05		conjunction	2520 Mar 05 06:07	14°✕52'41	0°-54'-45
	2514 Sep 05 07:04	0°♂		minimum elong	2520 Mar 05 06:05	14°✕52'40	0°54'46
evening set	2514 Sep 14 22:40	2°♂03'03		max. Earth dist.	2520 Mar 05 06:26	14°✕52'52	5.98517 AU
max. Earth dist.	2514 Sep 27 06:11	4°♂42'10	6.45149 AU	morning rise	2520 Mar 18 07:54	18°✕01'40	
					2520 May 11 07:17	0°♀	
conjunction	2514 Sep 28 01:29	4°♂52'36	1°03'26	retrograde	2520 Jul 28 01:58	8°♀29'21	
minimum elong	2514 Sep 28 01:28	4°♂52'36	1°03'26	opposition	2520 Sep 26 02:13	3°♀28'54	-1°-33'-38
morning rise	2514 Oct 11 01:41	7°♂40'48		min. Earth dist.	2520 Sep 25 13:37	3°♀33'06	3.95562 AU
retrograde	2515 Feb 08 06:19	24°♂25'16			2520 Oct 25 05:57	30°♂✕	
opposition	2515 Apr 09 19:05	19°♂31'28	1°33'25	direct	2520 Nov 23 09:30	28°✕35'16	
min. Earth dist.	2515 Apr 10 16:08	19°♂24'41	4.46003 AU		2520 Dec 22 10:04	0°♀	
direct	2515 Jun 11 09:55	14°♂28'59		evening set	2521 Mar 29 00:16	18°♀20'00	
	2515 Oct 06 14:07	0°♂					
evening set	2515 Oct 15 18:28	1°♂57'46		conjunction	2521 Apr 11 07:07	21°♀32'41	-1°-3'-15
max. Earth dist.	2515 Oct 26 23:35	4°♂23'26	6.44791 AU	minimum elong	2521 Apr 11 07:08	21°♀32'42	1°03'16
				max. Earth dist.	2521 Apr 12 15:47	21°♀52'28	5.94788 AU
conjunction	2515 Oct 28 15:21	4°♂45'03	1°01'08	morning rise	2521 Apr 24 17:11	24°♀47'02	
minimum elong	2515 Oct 28 15:22	4°♂45'04	1°01'09		2521 May 16 21:22	0°♂	
morning rise	2515 Nov 10 09:28	7°♂31'09			2521 Aug 18 11:30	15°♂	
	2515 Dec 16 15:07	15°♂		retrograde	2521 Sep 04 01:23	15°♂27'12	
retrograde	2516 Mar 09 19:31	24°♂21'46			2521 Sep 20 14:11	15°♂♂	
opposition	2516 May 09 15:29	19°♂29'37	1°18'04	opposition	2521 Nov 02 18:27	10°♂23'18	-1°-26'-53
min. Earth dist.	2516 May 11 00:21	19°♂19'08	4.41916 AU	min. Earth dist.	2521 Nov 01 12:18	10°♂33'32	3.96536 AU
	2516 Jun 22 15:15	15°♂♂		direct	2521 Dec 30 15:22	5°♂28'13	
direct	2516 Jul 11 08:06	14°♂28'29			2522 Mar 21 13:04	15°♂	
	2516 Jul 30 04:41	15°♂		evening set	2522 May 05 14:22	25°♂04'50	
	2516 Nov 04 10:28	0°♂					
evening set	2516 Nov 14 08:30	2°♂09'38		conjunction	2522 May 19 04:57	28°♂18'30	0°-46'-50
max. Earth dist.	2516 Nov 24 22:49	4°♂30'11	6.37232 AU	minimum elong	2522 May 19 05:00	28°♂18'32	0°46'51

max. Earth dist.	2522 May 21 11:34	28°♄50'56	6.00310 AU		2528 Oct 18 12:33	0°♂	
	2522 May 26 08:00	0°♂		evening set	2528 Nov 18 16:37	6°♂36'55	
morning rise	2522 Jun 01 21:54	1°♂33'16		max. Earth dist.	2528 Nov 29 06:49	8°♂57'54	6.35741 AU
retrograde	2522 Oct 10 09:31	21°♂34'56					
min. Earth dist.	2522 Dec 07 11:15	16°♂41'57	4.05957 AU	conjunction	2528 Dec 01 09:36	9°♂26'10	0°38'19
opposition	2522 Dec 08 22:28	16°♂29'57	0°-46'-27	minimum elong	2528 Dec 01 09:38	9°♂26'11	0°38'18
direct	2523 Feb 05 07:05	11°♂32'02		morning rise	2528 Dec 14 00:46	12°♂14'47	
	2523 Jun 08 21:49	0°♂		retrograde	2529 Apr 15 14:47	29°♂46'13	
evening set	2523 Jun 11 15:26	0°♂37'29		opposition	2529 Jun 15 12:51	24°♂54'01	0°33'46
				min. Earth dist.	2529 Jun 17 00:56	24°♂42'30	4.29548 AU
conjunction	2523 Jun 25 09:22	3°♂47'01	0°-13'-16	direct	2529 Aug 16 12:50	19°♂55'15	
minimum elong	2523 Jun 25 09:23	3°♂47'02	0°13'17		2529 Nov 12 10:03	0°♂	
behind sun begin	2523 Jun 25 04:42	3°♂44'21		evening set	2529 Dec 20 02:44	8°♂09'04	
behind sun end	2523 Jun 25 14:03	3°♂49'42		max. Earth dist.	2529 Dec 30 21:07	10°♂36'56	6.22517 AU
max. Earth dist.	2523 Jun 27 13:53	4°♂17'14	6.12732 AU				
morning rise	2523 Jul 09 04:18	6°♂56'43		conjunction	2530 Jan 01 19:06	11°♂03'21	0°05'26
retrograde	2523 Nov 13 05:32	25°♂51'28		minimum elong	2530 Jan 01 19:07	11°♂03'22	0°05'26
asc. node	2523 Nov 13 05:54	25°♂51'28		behind sun begin	2530 Jan 01 11:26	10°♂58'58	
opposition	2524 Jan 11 21:59	20°♂48'05	0°08'14	behind sun end	2530 Jan 02 02:49	11°♂07'45	
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direct	2524 Mar 11 09:09	15°♂47'24		desc. node	2530 Mar 01 03:13	23°♂45'23	
	2524 Jun 26 15:23	0°♂			2530 Apr 09 14:04	0°♂	
evening set	2524 Jul 16 01:23	4°♂13'45		retrograde	2530 May 20 07:11	2°♂29'34	
					2530 Jun 30 10:20	30°♂	
conjunction	2524 Jul 29 17:05	7°♂15'55	0°23'28	opposition	2530 Jul 20 00:35	27°♂35'39	0°-19'-20
minimum elong	2524 Jul 29 17:04	7°♂15'54	0°23'28	min. Earth dist.	2530 Jul 21 04:22	27°♂26'42	4.15117 AU
max. Earth dist.	2524 Jul 31 02:36	7°♂34'35	6.27287 AU	direct	2530 Sep 18 20:28	22°♂39'23	
morning rise	2524 Aug 12 07:41	10°♂17'17			2530 Nov 29 15:04	0°♂	
	2524 Sep 03 02:47	15°♂		evening set	2531 Jan 22 03:40	11°♂32'08	
retrograde	2524 Dec 14 00:34	28°♂06'27					
opposition	2525 Feb 11 22:05	23°♂06'30	0°56'51	conjunction	2531 Feb 03 22:34	14°♂33'27	0°-30'-45
min. Earth dist.	2525 Feb 11 09:08	23°♂10'49	4.33788 AU	minimum elong	2531 Feb 03 22:32	14°♂33'26	0°30'46
direct	2525 Apr 13 17:44	18°♂04'09		max. Earth dist.	2531 Feb 02 20:02	14°♂17'45	6.08137 AU
	2525 Jul 21 03:51	0°♂			2531 Feb 05 19:22	15°♂	
evening set	2525 Aug 18 12:31	5°♂57'10		morning rise	2531 Feb 16 18:36	17°♂35'39	
					2531 Apr 15 09:10	0°♂	
conjunction	2525 Aug 31 21:49	8°♂51'42	0°51'26	retrograde	2531 Jun 26 04:03	7°♂16'42	
minimum elong	2525 Aug 31 21:47	8°♂51'41	0°51'26	opposition	2531 Aug 25 13:33	2°♂19'39	-1°-9'-19
max. Earth dist.	2525 Sep 01 02:49	8°♂54'25	6.39223 AU	min. Earth dist.	2531 Aug 25 21:07	2°♂17'11	4.02029 AU
morning rise	2525 Sep 14 04:53	11°♂44'57			2531 Sep 13 02:01	30°♂	
retrograde	2526 Jan 13 10:02	28°♂48'17		direct	2531 Oct 23 21:34	27°♂25'28	
opposition	2526 Mar 14 15:53	23°♂51'58	1°26'45		2531 Dec 02 23:58	0°♂	
min. Earth dist.	2526 Mar 14 21:16	23°♂50'12	4.43152 AU	evening set	2532 Feb 26 06:56	16°♂54'15	
direct	2526 May 15 14:52	18°♂49'06					
	2526 Aug 19 11:45	0°♂		conjunction	2532 Mar 10 07:09	20°♂02'37	0°-57'-21
evening set	2526 Sep 19 07:16	6°♂22'22		minimum elong	2532 Mar 10 07:07	20°♂02'36	0°57'23
				max. Earth dist.	2532 Mar 10 11:31	20°♂05'16	5.97528 AU
conjunction	2526 Oct 02 09:21	9°♂11'33	1°04'07	morning rise	2532 Mar 23 09:58	23°♂12'31	
minimum elong	2526 Oct 02 09:21	9°♂11'33	1°04'06		2532 Apr 21 13:30	0°♂	
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retrograde	2527 Feb 12 11:40	28°♂43'43		min. Earth dist.	2532 Sep 30 17:36	8°♂48'57	3.95118 AU
opposition	2527 Apr 14 01:50	23°♂50'17	1°32'39	direct	2532 Nov 28 13:43	3°♂50'10	
min. Earth dist.	2527 Apr 15 00:07	23°♂43'07	4.45686 AU	evening set	2533 Apr 03 05:05	23°♂35'43	
direct	2527 Jun 15 16:41	18°♂48'02					
	2527 Sep 19 19:18	0°♂		conjunction	2533 Apr 16 13:14	26°♂48'55	-1°-2'-23
evening set	2527 Oct 20 01:39	6°♂18'03		minimum elong	2533 Apr 16 13:15	26°♂48'55	1°02'24
max. Earth dist.	2527 Oct 31 03:13	8°♂42'12	6.44031 AU	max. Earth dist.	2533 Apr 18 02:49	27°♂11'38	5.94934 AU
					2533 Apr 29 18:12	0°♂	
conjunction	2527 Nov 01 21:44	9°♂05'22	0°59'22	morning rise	2533 Apr 30 00:19	0°♂03'40	
minimum elong	2527 Nov 01 21:45	9°♂05'23	0°59'22		2533 Jul 09 06:28	15°♂	
morning rise	2527 Nov 14 15:27	11°♂51'36		retrograde	2533 Sep 09 06:58	20°♂41'41	
	2527 Nov 29 07:42	15°♂		opposition	2533 Nov 07 21:59	15°♂37'31	-1°-22'-54
retrograde	2528 Mar 14 07:01	28°♂45'40		min. Earth dist.	2533 Nov 06 14:51	15°♂48'05	3.97263 AU
opposition	2528 May 14 02:11	23°♂53'39	1°13'56		2533 Nov 12 12:46	15°♂	
min. Earth dist.	2528 May 15 12:46	23°♂42'37	4.40748 AU	direct	2534 Jan 04 19:10	10°♂42'06	
direct	2528 Jul 15 18:45	18°♂52'45			2534 Feb 25 18:37	15°♂	














































































































	2534 May 09 16:31	0°♊			2539 Aug 31 18:13	0°♌	
evening set	2534 May 10 19:54	0°♊16'06		evening set	2539 Oct 24 07:47	10°♌36'14	
				max. Earth dist.	2539 Nov 04 08:33	13°♌00'02	6.43855 AU
conjunction	2534 May 24 11:10	3°♊29'34	0°-42'-51				
minimum elong	2534 May 24 11:12	3°♊29'35	0°42'51	conjunction	2539 Nov 06 03:19	13°♌23'22	0°57'20
max. Earth dist.	2534 May 26 17:35	4°♊01'46	6.01523 AU	minimum elong	2539 Nov 06 03:21	13°♌23'22	0°57'20
morning rise	2534 Jun 07 04:57	6°♊44'05			2539 Nov 13 12:33	15°♌	
retrograde	2534 Oct 15 05:58	26°♊38'17		morning rise	2539 Nov 18 20:13	16°♌09'23	
min. Earth dist.	2534 Dec 12 08:13	21°♊45'29	4.07516 AU		2540 Feb 01 20:08	0°♌	
opposition	2534 Dec 13 19:50	21°♊33'20	0°-39'-5	retrograde	2540 Mar 18 13:31	3°♌04'56	
direct	2535 Feb 10 06:26	16°♊34'59			2540 May 04 02:26	30°♌	
	2535 May 22 14:19	0°♌		opposition	2540 May 18 10:58	28°♌12'57	1°09'31
evening set	2535 Jun 16 17:25	5°♌36'01		min. Earth dist.	2540 May 19 21:51	28°♌01'50	4.40149 AU
				direct	2540 Jul 20 02:40	23°♌12'18	
conjunction	2535 Jun 30 11:28	8°♌44'47	0°-7'-58		2540 Sep 29 14:56	0°♌	
minimum elong	2535 Jun 30 11:29	8°♌44'48	0°07'58	evening set	2540 Nov 22 22:20	10°♌57'35	
behind sun begin	2535 Jun 30 04:02	8°♌40'33		max. Earth dist.	2540 Dec 03 10:55	13°♌18'04	6.34749 AU
behind sun end	2535 Jun 30 18:55	8°♌49'02					
max. Earth dist.	2535 Jul 02 14:20	9°♌13'56	6.14517 AU	conjunction	2540 Dec 05 14:50	13°♌47'03	0°34'22
morning rise	2535 Jul 14 06:04	11°♌53'33		minimum elong	2540 Dec 05 14:51	13°♌47'04	0°34'22
asc. node	2535 Sep 22 15:28	25°♌57'13		morning rise	2540 Dec 18 05:56	16°♌36'01	
	2535 Oct 28 18:00	0°♏			2541 Feb 25 06:20	0°♏	
retrograde	2535 Nov 17 21:03	0°♏39'24		retrograde	2541 Apr 20 04:19	4°♏12'31	
	2535 Dec 07 18:45	30°♏			2541 Jun 14 20:37	30°♏	
min. Earth dist.	2536 Jan 15 10:34	25°♏45'23	4.21846 AU	opposition	2541 Jun 20 01:57	29°♏20'09	0°27'03
opposition	2536 Jan 16 13:02	25°♏36'27	0°15'53	min. Earth dist.	2541 Jun 21 14:45	29°♏08'24	4.28187 AU
direct	2536 Mar 16 04:55	20°♏35'30		direct	2541 Aug 21 00:31	24°♏21'36	
	2536 Jun 08 03:11	0°♏			2541 Oct 23 09:01	0°♏	
evening set	2536 Jul 20 21:53	8°♏57'19		evening set	2541 Dec 24 10:47	12°♏38'43	
				max. Earth dist.	2542 Jan 04 06:20	15°♏07'46	6.20896 AU
conjunction	2536 Aug 03 12:53	11°♏58'26	0°28'11				
minimum elong	2536 Aug 03 12:51	11°♏58'25	0°28'10	conjunction	2542 Jan 06 03:24	15°♏33'44	0°00'28
max. Earth dist.	2536 Aug 04 19:24	12°♏15'22	6.29044 AU	minimum elong	2542 Jan 06 03:22	15°♏33'43	0°00'28
morning rise	2536 Aug 17 02:38	14°♏58'41		behind sun begin	2542 Jan 05 19:24	15°♏29'09	
	2536 Aug 17 05:02	15°♏		behind sun end	2542 Jan 06 11:21	15°♏38'17	
	2536 Nov 06 13:18	0°♐		desc. node	2542 Jan 11 01:20	16°♏41'43	
retrograde	2536 Dec 18 08:21	2°♐40'24		morning rise	2542 Jan 18 19:40	18°♏28'53	
	2537 Jan 29 03:57	30°♐			2542 Mar 14 12:46	0°♐	
opposition	2537 Feb 16 08:03	27°♐40'57	1°02'25	retrograde	2542 May 25 01:17	7°♐08'50	
min. Earth dist.	2537 Feb 15 20:32	27°♐44'47	4.35378 AU	opposition	2542 Jul 24 19:12	2°♐14'34	0°-26'-38
direct	2537 Apr 18 07:18	22°♐38'29		min. Earth dist.	2542 Jul 25 20:56	2°♐06'16	4.13350 AU
	2537 Jul 01 17:37	0°♐			2542 Aug 11 20:21	30°♐	
evening set	2537 Aug 23 03:01	10°♐27'52		direct	2542 Sep 23 10:02	27°♐18'35	
					2542 Nov 04 05:11	0°♐	
conjunction	2537 Sep 05 11:18	13°♐21'26	0°54'15	evening set	2543 Jan 21 07:35	15°♐	
minimum elong	2537 Sep 05 11:16	13°♐21'25	0°54'15		2543 Jan 26 17:38	16°♐16'22	
max. Earth dist.	2537 Sep 05 13:31	13°♐22'39	6.40564 AU				
morning rise	2537 Sep 18 17:06	16°♐13'40		conjunction	2543 Feb 08 12:57	19°♐18'39	0°-35'-9
	2537 Dec 02 07:29	0°♑		minimum elong	2543 Feb 08 12:55	19°♐18'38	0°35'09
retrograde	2538 Jan 17 16:14	3°♑12'09		max. Earth dist.	2543 Feb 07 12:41	19°♐04'13	6.06369 AU
	2538 Mar 05 09:55	30°♑		morning rise	2543 Feb 21 09:46	22°♐21'57	
opposition	2538 Mar 18 23:26	28°♑16'19	1°29'04		2543 Mar 26 22:23	0°♑	
min. Earth dist.	2538 Mar 19 07:04	28°♑13'49	4.44186 AU	retrograde	2543 Jul 01 06:31	12°♑12'04	
direct	2538 May 20 02:14	23°♑13'32		opposition	2543 Aug 30 13:50	7°♑14'31	-1°-14'-36
	2538 Jul 30 23:54	0°♑		min. Earth dist.	2543 Aug 30 19:31	7°♑12'39	4.00418 AU
evening set	2538 Sep 23 16:38	10°♑44'13		direct	2543 Oct 28 18:08	2°♑20'26	
				evening set	2544 Mar 02 04:02	21°♑54'17	
conjunction	2538 Oct 06 17:35	13°♑32'43	1°04'30				
minimum elong	2538 Oct 06 17:35	13°♑32'43	1°04'30	conjunction	2544 Mar 15 05:26	25°♑03'44	0°-59'-28
max. Earth dist.	2538 Oct 05 16:39	13°♑19'16	6.45943 AU	minimum elong	2544 Mar 15 05:24	25°♑03'43	0°59'29
morning rise	2538 Oct 19 15:50	16°♑19'54		max. Earth dist.	2544 Mar 15 14:25	25°♑09'11	5.96237 AU
	2539 Jan 02 09:40	0°♒		morning rise	2544 Mar 28 09:20	28°♑14'44	
retrograde	2539 Feb 16 17:31	3°♒02'30			2544 Apr 04 17:15	0°♒	
	2539 Apr 03 14:38	30°♒		retrograde	2544 Aug 07 15:39	18°♒53'04	
opposition	2539 Apr 18 08:59	28°♒09'16	1°31'26	opposition	2544 Oct 06 12:07	13°♒51'38	-1°-35'-42
min. Earth dist.	2539 Apr 19 09:11	28°♒01'29	4.45933 AU	min. Earth dist.	2544 Oct 05 19:06	13°♒57'21	3.94313 AU
direct	2539 Jun 20 01:57	23°♒07'07		direct	2544 Dec 03 13:53	8°♒57'51	

evening set	2545 Apr 08 08:22	28° Υ 46'00	direct	2550 May 24 12:11	27° η 37'44	
	2545 Apr 13 11:15	0° \mathcal{B}		2550 Jul 04 08:12	0° \mathcal{A}	
conjunction	2545 Apr 21 17:37	1° \mathcal{B} 59'52 -1°-1'-2	evening set	2550 Sep 28 01:45	15° \mathcal{A} 06'34	
minimum elong	2545 Apr 21 17:38	1° \mathcal{B} 59'53 1°01'03	max. Earth dist.	2550 Oct 09 22:31	17° \mathcal{A} 39'50	6.46280 AU
max. Earth dist.	2545 Apr 23 09:09	2° \mathcal{B} 23'45 5.94680 AU	conjunction	2550 Oct 11 01:48	17° \mathcal{A} 54'34	1°04'30
morning rise	2545 May 05 06:07	5° \mathcal{B} 15'21	minimum elong	2550 Oct 11 01:48	17° \mathcal{A} 54'34	1°04'31
	2545 Jun 17 03:00	15° \mathcal{B}	morning rise	2550 Oct 23 23:02	20° \mathcal{A} 41'14	
retrograde	2545 Sep 14 09:45	25° \mathcal{B} 52'50		2550 Dec 09 10:13	0° \mathcal{M}	
min. Earth dist.	2545 Nov 11 14:49	20° \mathcal{B} 59'45 3.97597 AU	retrograde	2551 Feb 21 00:07	7° \mathcal{M} 23'21	
opposition	2545 Nov 13 00:09	20° \mathcal{B} 48'25 -1°-18'-22	opposition	2551 Apr 22 16:55	2° \mathcal{M} 30'25	1°29'43
direct	2546 Jan 09 20:42	15° \mathcal{B} 52'39	min. Earth dist.	2551 Apr 23 19:23	2° \mathcal{M} 21'57	4.45720 AU
	2546 Apr 22 11:17	0° \mathcal{II}		2551 May 13 04:56	30° \mathcal{R} \mathcal{A}	
evening set	2546 May 16 01:14	5° \mathcal{II} 25'45	direct	2551 Jun 24 11:41	27° \mathcal{A} 28'27	
				2551 Aug 05 18:34	0° \mathcal{M}	
conjunction	2546 May 29 17:27	8° \mathcal{II} 39'13 0°-38'-33	evening set	2551 Oct 28 14:53	14° \mathcal{M} 58'16	
minimum elong	2546 May 29 17:29	8° \mathcal{II} 39'14 0°38'35		2551 Oct 28 18:05	15° \mathcal{M}	
max. Earth dist.	2546 Jun 01 01:24	9° \mathcal{II} 12'15 6.02431 AU	max. Earth dist.	2551 Nov 08 11:25	17° \mathcal{M} 20'08	6.43085 AU
morning rise	2546 Jun 12 11:45	11° \mathcal{II} 53'33				
	2546 Sep 17 16:32	0° \mathcal{S}	conjunction	2551 Nov 10 09:42	17° \mathcal{M} 45'26	0°54'57
retrograde	2546 Oct 20 04:33	1° \mathcal{S} 41'22	minimum elong	2551 Nov 10 09:44	17° \mathcal{M} 45'26	0°54'56
	2546 Nov 21 09:18	30° \mathcal{R} \mathcal{II}	morning rise	2551 Nov 23 02:18	20° \mathcal{M} 31'37	
min. Earth dist.	2546 Dec 17 06:35	26° \mathcal{II} 48'19 4.08865 AU		2552 Jan 08 18:42	0° \mathcal{A}	
opposition	2546 Dec 18 17:14	26° \mathcal{II} 36'30 0°-31'-30	retrograde	2552 Mar 23 00:57	7° \mathcal{A} 31'01	
direct	2547 Feb 15 07:20	21° \mathcal{II} 37'46	opposition	2552 May 22 22:41	2° \mathcal{A} 39'01	1°04'35
	2547 May 03 02:08	0° \mathcal{S}	min. Earth dist.	2552 May 24 10:47	2° \mathcal{A} 27'31	4.38854 AU
evening set	2547 Jun 21 20:02	10° \mathcal{S} 35'02		2552 Jun 13 21:31	30° \mathcal{R} \mathcal{M}	
			direct	2552 Jul 24 13:26	27° \mathcal{M} 38'34	
conjunction	2547 Jul 05 14:06	13° \mathcal{S} 43'04 0°-2'-37		2552 Sep 03 00:17	0° \mathcal{A}	
minimum elong	2547 Jul 05 14:06	13° \mathcal{S} 43'04 0°02'37	evening set	2552 Nov 27 06:50	15° \mathcal{A} 27'17	
behind sun begin	2547 Jul 05 05:44	13° \mathcal{S} 38'19	max. Earth dist.	2552 Dec 07 20:06	17° \mathcal{A} 48'40	6.33032 AU
behind sun end	2547 Jul 05 22:28	13° \mathcal{S} 47'49				
max. Earth dist.	2547 Jul 07 16:33	14° \mathcal{S} 11'50 6.16196 AU	conjunction	2552 Dec 09 23:19	18° \mathcal{A} 17'22	0°30'04
morning rise	2547 Jul 19 08:25	16° \mathcal{S} 50'56	minimum elong	2552 Dec 09 23:21	18° \mathcal{A} 17'23	0°30'04
asc. node	2547 Aug 01 19:51	19° \mathcal{S} 51'41	morning rise	2552 Dec 22 14:15	21° \mathcal{A} 07'00	
	2547 Sep 22 09:12	0° \mathcal{Q}		2553 Feb 02 18:17	0° \mathcal{B}	
retrograde	2547 Nov 22 10:32	5° \mathcal{Q} 28'00	retrograde	2553 Apr 24 21:36	8° \mathcal{B} 51'14	
min. Earth dist.	2548 Jan 20 02:07	0° \mathcal{Q} 34'13 4.23678 AU	opposition	2553 Jun 24 19:50	3° \mathcal{B} 58'42	0°19'50
opposition	2548 Jan 21 04:16	0° \mathcal{Q} 25'24 0°23'23	min. Earth dist.	2553 Jun 26 07:42	3° \mathcal{B} 47'16	4.26149 AU
	2548 Jan 24 07:46	30° \mathcal{R} \mathcal{S}		2553 Jul 31 01:45	30° \mathcal{R} \mathcal{A}	
direct	2548 Mar 20 23:25	25° \mathcal{S} 24'10	direct	2553 Aug 25 14:26	29° \mathcal{A} 00'31	
	2548 May 16 06:10	0° \mathcal{Q}		2553 Sep 20 01:49	0° \mathcal{B}	
evening set	2548 Jul 25 18:27	13° \mathcal{Q} 41'12	desc. node	2553 Nov 20 08:57	8° \mathcal{B} 58'22	
	2548 Jul 31 17:33	15° \mathcal{Q}	evening set	2553 Dec 29 00:30	17° \mathcal{B} 23'14	
			max. Earth dist.	2554 Jan 08 21:10	19° \mathcal{B} 53'43	6.18702 AU
conjunction	2548 Aug 08 08:35	16° \mathcal{Q} 41'12 0°32'41				
minimum elong	2548 Aug 08 08:33	16° \mathcal{Q} 41'11 0°32'42	conjunction	2554 Jan 10 17:09	20° \mathcal{B} 19'12	0°-4'-48
max. Earth dist.	2548 Aug 09 11:17	16° \mathcal{Q} 55'57 6.30868 AU	minimum elong	2554 Jan 10 17:09	20° \mathcal{B} 19'12	0°04'49
morning rise	2548 Aug 21 21:22	19° \mathcal{Q} 40'14	behind sun begin	2554 Jan 10 09:22	20° \mathcal{B} 14'42	
	2548 Oct 11 17:14	0° $\mathcal{\eta}$	behind sun end	2554 Jan 11 00:57	20° \mathcal{B} 23'41	
retrograde	2548 Dec 22 18:18	7° $\mathcal{\eta}$ 14'21	morning rise	2554 Jan 23 10:02	23° \mathcal{B} 15'30	
opposition	2549 Feb 20 18:26	2° $\mathcal{\eta}$ 15'21 1°07'35		2554 Feb 22 15:46	0° \approx	
min. Earth dist.	2549 Feb 20 09:58	2° $\mathcal{\eta}$ 18'10 4.37018 AU	retrograde	2554 May 30 05:03	12° \approx 05'49	
	2549 Mar 10 11:15	30° \mathcal{R} \mathcal{Q}	opposition	2554 Jul 29 20:55	7° \approx 11'09	0°-34'-16
direct	2549 Apr 22 23:18	27° \mathcal{Q} 12'45	min. Earth dist.	2554 Jul 30 20:42	7° \approx 03'27	4.11157 AU
	2549 Jun 05 19:44	0° $\mathcal{\eta}$	direct	2554 Sep 28 07:19	2° \approx 15'24	
evening set	2549 Aug 27 16:56	14° $\mathcal{\eta}$ 58'06		2555 Jan 04 01:58	15° \approx	
			evening set	2555 Jan 31 14:35	21° \approx 19'32	
conjunction	2549 Sep 10 00:11	17° $\mathcal{\eta}$ 50'43 0°56'44				
minimum elong	2549 Sep 10 00:09	17° $\mathcal{\eta}$ 50'42 0°56'43	conjunction	2555 Feb 13 10:46	24° \approx 23'00	0°-39'-36
max. Earth dist.	2549 Sep 09 22:58	17° $\mathcal{\eta}$ 50'03 6.41855 AU	minimum elong	2555 Feb 13 10:44	24° \approx 22'59	0°39'37
morning rise	2549 Sep 23 04:48	20° $\mathcal{\eta}$ 41'58	max. Earth dist.	2555 Feb 12 15:14	24° \approx 11'21	6.04391 AU
	2549 Nov 08 09:32	0° \mathcal{A}	morning rise	2555 Feb 26 08:21	27° \approx 27'32	
retrograde	2550 Jan 21 21:14	7° \mathcal{A} 35'59		2555 Mar 09 03:27	0° \mathcal{H}	
opposition	2550 Mar 23 06:53	2° \mathcal{A} 40'31 1°30'53	retrograde	2555 Jul 06 16:55	17° \mathcal{H} 27'13	
min. Earth dist.	2550 Mar 23 16:23	2° \mathcal{A} 37'25 4.45041 AU	opposition	2555 Sep 04 22:01	12° \mathcal{H} 29'11	-1°-19'-41
	2550 Apr 14 01:02	30° \mathcal{R} $\mathcal{\eta}$	min. Earth dist.	2555 Sep 05 00:36	12° \mathcal{H} 28'20	3.98879 AU

direct	2555 Nov 02 20:50	7° ✕ 35'19		conjunction	2561 Sep 14 09:31	22° ⌘ 11'14	0°58'49
evening set	2556 Mar 07 08:51	27° ✕ 13'29		minimum elong	2561 Sep 14 09:30	22° ⌘ 11'13	0°58'49
	2556 Mar 18 19:50	0° Υ		max. Earth dist.	2561 Sep 14 03:03	22° ⌘ 07'44	6.43030 AU
				morning rise	2561 Sep 27 13:06	25° ⌘ 01'35	
conjunction	2556 Mar 20 11:07	0° Υ 23'50	-1°-1'-14		2561 Oct 21 06:11	0° ♊	
minimum elong	2556 Mar 20 11:06	0° Υ 23'50	1°01'15	retrograde	2562 Jan 26 02:05	11° ♊ 52'00	
max. Earth dist.	2556 Mar 20 23:46	0° Υ 31'31	5.95280 AU	opposition	2562 Mar 27 11:59	6° ♊ 57'00	1°32'10
morning rise	2556 Apr 02 16:23	3° Υ 35'50		min. Earth dist.	2562 Mar 28 01:18	6° ♊ 52'41	4.45619 AU
retrograde	2556 Aug 13 01:40	24° Υ 17'59		direct	2562 May 28 21:11	1° ♊ 54'16	
opposition	2556 Oct 11 21:47	19° Υ 16'01	-1°-35'-35	evening set	2562 Oct 02 08:05	19° ♊ 22'14	
min. Earth dist.	2556 Oct 11 00:51	19° Υ 23'04	3.94095 AU	max. Earth dist.	2562 Oct 14 00:04	21° ♊ 53'03	6.46196 AU
direct	2556 Dec 08 21:06	14° Υ 22'04					
	2557 Mar 27 02:38	0° ♋		conjunction	2562 Oct 15 07:21	22° ♊ 09'57	1°04'11
evening set	2557 Apr 13 17:29	4° ♋ 10'07		minimum elong	2562 Oct 15 07:21	22° ♊ 09'57	1°04'11
				morning rise	2562 Oct 28 03:47	24° ♊ 56'21	
conjunction	2557 Apr 27 03:59	7° ♋ 24'17	0°-59'-9		2562 Nov 21 07:24	0° ♌	
minimum elong	2557 Apr 27 04:01	7° ♋ 24'18	0°59'10	retrograde	2563 Feb 25 05:26	11° ♌ 39'40	
max. Earth dist.	2557 Apr 29 00:23	7° ♋ 51'04	5.95242 AU	opposition	2563 Apr 26 23:35	6° ♌ 46'57	1°27'35
morning rise	2557 May 10 17:24	10° ♋ 39'56		min. Earth dist.	2563 Apr 28 03:38	6° ♌ 37'58	4.45001 AU
	2557 May 29 03:36	15° ♋		direct	2563 Jun 28 17:51	1° ♌ 45'08	
	2557 Aug 23 07:02	0° ♌			2563 Oct 12 17:06	15° ♌	
retrograde	2557 Sep 19 16:18	1° ♌ 12'44		evening set	2563 Nov 01 20:57	19° ♌ 17'24	
	2557 Oct 16 19:14	30° ♌ 8		max. Earth dist.	2563 Nov 12 16:15	21° ♌ 39'03	6.41782 AU
min. Earth dist.	2557 Nov 16 19:39	26° ♌ 19'34	3.98876 AU				
opposition	2557 Nov 18 05:32	26° ♌ 08'01	-1°-13'-1	conjunction	2563 Nov 14 15:23	22° ♌ 04'54	0°52'18
direct	2558 Jan 15 04:14	21° ♌ 11'51		minimum elong	2563 Nov 14 15:25	22° ♌ 04'55	0°52'18
	2558 Apr 02 19:53	0° ♌		morning rise	2563 Nov 27 07:30	24° ♌ 51'27	
evening set	2558 May 21 08:49	10° ♌ 40'07			2563 Dec 21 11:24	0° ♍	
				retrograde	2564 Mar 27 12:46	11° ♍ 56'32	
conjunction	2558 Jun 04 01:37	13° ♌ 52'59	0°-33'-55	opposition	2564 May 27 10:31	7° ♍ 04'39	0°59'19
minimum elong	2558 Jun 04 01:40	13° ♌ 53'00	0°33'57	min. Earth dist.	2564 May 28 23:44	6° ♍ 52'48	4.37039 AU
max. Earth dist.	2558 Jun 06 11:18	14° ♌ 26'51	6.04300 AU	direct	2564 Jul 28 23:24	2° ♍ 04'32	
morning rise	2558 Jun 17 20:18	17° ♌ 06'34		evening set	2564 Dec 01 16:16	19° ♍ 58'31	
	2558 Aug 17 20:14	0° ♍		max. Earth dist.	2564 Dec 12 04:08	22° ♍ 19'54	6.30843 AU
retrograde	2558 Oct 25 00:21	6° ♍ 43'53					
min. Earth dist.	2558 Dec 22 03:19	1° ♍ 51'06	4.11117 AU	conjunction	2564 Dec 14 08:34	22° ♍ 49'26	0°25'35
opposition	2558 Dec 23 14:23	1° ♍ 39'10	0°-23'-42	minimum elong	2564 Dec 14 08:35	22° ♍ 49'27	0°25'35
	2559 Jan 04 23:57	30° ♍ 11		morning rise	2564 Dec 26 23:49	25° ♍ 40'03	
direct	2559 Feb 20 07:18	26° ♍ 14'01			2565 Jan 15 16:06	0° ♎	
	2559 Apr 07 16:36	0° ♍		retrograde	2565 Apr 29 18:50	13° ♎ 33'53	
asc. node	2559 Jun 11 08:56	12° ♍ 02'41		opposition	2565 Jun 29 15:48	8° ♎ 41'11	0°12'25
evening set	2559 Jun 26 21:19	15° ♍ 30'19		min. Earth dist.	2565 Jul 01 02:27	8° ♎ 30'05	4.23725 AU
				direct	2565 Aug 30 05:57	3° ♎ 43'21	
conjunction	2559 Jul 10 14:56	18° ♍ 37'05	0°02'48	desc. node	2565 Sep 29 15:23	5° ♎ 07'58	
minimum elong	2559 Jul 10 14:56	18° ♍ 37'05	0°02'48	evening set	2566 Jan 02 16:09	22° ♎ 13'02	
behind sun begin	2559 Jul 10 06:35	18° ♍ 32'23		max. Earth dist.	2566 Jan 13 17:23	24° ♎ 46'56	6.16268 AU
behind sun end	2559 Jul 10 23:16	18° ♍ 41'48					
max. Earth dist.	2559 Jul 12 13:44	19° ♍ 03'38	6.18620 AU	conjunction	2566 Jan 15 09:21	25° ♎ 10'12	0°-10'00
morning rise	2559 Jul 24 08:45	21° ♍ 43'36		minimum elong	2566 Jan 15 09:20	25° ♎ 10'12	0°10'01
	2559 Aug 31 22:50	0° ♏		behind sun begin	2566 Jan 15 02:50	25° ♎ 06'25	
retrograde	2559 Nov 26 22:49	10° ♏ 09'45		behind sun end	2566 Jan 15 15:51	25° ♎ 13'58	
opposition	2560 Jan 25 17:15	5° ♏ 07'34	0°30'32	morning rise	2566 Jan 28 02:37	28° ♎ 07'45	
min. Earth dist.	2560 Jan 24 18:05	5° ♏ 15'22	4.26039 AU		2566 Feb 05 05:38	0° ♏	
direct	2560 Mar 25 18:46	0° ♏ 06'00			2566 Apr 27 20:20	15° ♏	
	2560 Jul 15 07:36	15° ♏		retrograde	2566 Jun 04 11:37	17° ♏ 09'19	
evening set	2560 Jul 30 11:41	18° ♏ 16'45			2566 Jul 12 08:36	15° ♏ 8	
				opposition	2566 Aug 04 01:27	12° ♏ 14'19	0°-41'-46
conjunction	2560 Aug 13 01:02	21° ♏ 15'29	0°36'52	min. Earth dist.	2566 Aug 04 22:33	12° ♏ 07'29	4.08930 AU
minimum elong	2560 Aug 13 01:00	21° ♏ 15'28	0°36'52	direct	2566 Oct 03 06:01	7° ♏ 19'02	
max. Earth dist.	2560 Aug 14 00:54	21° ♏ 28'38	6.32975 AU		2566 Dec 15 03:52	15° ♏	
morning rise	2560 Aug 26 12:34	24° ♏ 13'09		evening set	2567 Feb 05 14:37	26° ♏ 29'31	
	2560 Sep 22 18:38	0° ♐					
retrograde	2560 Dec 26 22:53	11° ♐ 39'15		conjunction	2567 Feb 18 11:21	29° ♏ 34'06	0°-43'-48
opposition	2561 Feb 25 01:25	6° ♐ 40'47	1°12'11	minimum elong	2567 Feb 18 11:19	29° ♏ 34'04	0°43'49
min. Earth dist.	2561 Feb 24 18:54	6° ♐ 42'56	4.38729 AU	max. Earth dist.	2567 Feb 17 19:30	29° ♏ 24'36	6.02572 AU
direct	2561 Apr 27 09:40	1° ♐ 38'04			2567 Feb 20 06:34	0° ♑	
evening set	2561 Sep 01 03:28	19° ♐ 19'32		morning rise	2567 Mar 03 10:04	2° ♑ 39'54	

retrograde	2567 Jul 12 03:02	22° Υ 48'11		evening set	2573 Sep 05 13:49	23° η 42'11	
opposition	2567 Sep 10 08:00	17° Υ 49'34	-1°-24'-9				
min. Earth dist.	2567 Sep 10 05:57	17° Υ 50'15	3.97678 AU	conjunction	2573 Sep 18 19:02	26° η 33'10	1°00'36
direct	2567 Nov 08 02:12	12° Υ 55'51		minimum elong	2573 Sep 18 19:01	26° η 33'10	1°00'36
	2568 Mar 01 17:08	0° Υ		max. Earth dist.	2573 Sep 18 09:38	26° η 28'05	6.43838 AU
evening set	2568 Mar 12 15:31	2° Υ 36'58		morning rise	2573 Oct 01 21:23	29° η 22'45	
					2573 Oct 04 18:55	0° $\underline{\Delta}$	
conjunction	2568 Mar 25 19:01	5° Υ 48'04	-1°-2'-30	retrograde	2574 Jan 30 06:00	16° $\underline{\Delta}$ 10'46	
minimum elong	2568 Mar 25 19:01	5° Υ 48'03	1°02'31	opposition	2574 Mar 31 17:53	11° $\underline{\Delta}$ 16'09	1°33'00
max. Earth dist.	2568 Mar 26 14:18	5° Υ 59'46	5.94812 AU	min. Earth dist.	2574 Apr 01 08:49	11° $\underline{\Delta}$ 11'19	4.45869 AU
morning rise	2568 Apr 08 01:18	9° Υ 00'46		direct	2574 Jun 02 04:00	6° $\underline{\Delta}$ 13'28	
retrograde	2568 Aug 18 13:37	29° Υ 44'12		evening set	2574 Oct 06 15:38	23° $\underline{\Delta}$ 41'27	
min. Earth dist.	2568 Oct 16 08:42	24° Υ 49'26	3.94415 AU	max. Earth dist.	2574 Oct 18 03:21	26° $\underline{\Delta}$ 10'11	6.45865 AU
opposition	2568 Oct 17 07:36	24° Υ 41'43	-1°-34'-36				
direct	2568 Dec 14 06:39	19° Υ 47'34		conjunction	2574 Oct 19 14:00	26° $\underline{\Delta}$ 28'57	1°03'30
	2569 Mar 08 02:20	0° \mathcal{B}		minimum elong	2574 Oct 19 14:01	26° $\underline{\Delta}$ 28'57	1°03'29
evening set	2569 Apr 19 02:22	9° \mathcal{B} 33'27		morning rise	2574 Nov 01 09:45	29° $\underline{\Delta}$ 15'13	
					2574 Nov 04 21:14	0° \mathcal{M}	
conjunction	2569 May 02 13:53	12° \mathcal{B} 47'36	0°-56'-46		2575 Feb 04 00:20	15° \mathcal{M}	
minimum elong	2569 May 02 13:55	12° \mathcal{B} 47'37	0°56'46	retrograde	2575 Mar 01 14:25	16° \mathcal{M} 00'23	
max. Earth dist.	2569 May 04 13:53	13° \mathcal{B} 16'27	5.96284 AU		2575 Mar 27 03:47	15° $\mathcal{R}\mathcal{M}$	
	2569 May 11 18:32	15° \mathcal{B}		opposition	2575 May 01 08:07	11° \mathcal{M} 07'54	1°24'56
morning rise	2569 May 16 04:22	16° \mathcal{B} 03'12		min. Earth dist.	2575 May 02 14:48	10° \mathcal{M} 58'05	4.44113 AU
	2569 Jul 20 05:01	0° \mathcal{I}		direct	2575 Jul 03 03:16	6° \mathcal{M} 06'15	
retrograde	2569 Sep 24 19:09	6° \mathcal{I} 29'13			2575 Sep 24 20:22	15° \mathcal{M}	
min. Earth dist.	2569 Nov 21 21:31	1° \mathcal{I} 36'26	4.00518 AU	evening set	2575 Nov 06 04:26	23° \mathcal{M} 41'10	
opposition	2569 Nov 23 09:02	1° \mathcal{I} 24'20	-1°-7'-7	max. Earth dist.	2575 Nov 16 21:03	26° \mathcal{M} 01'51	6.40395 AU
	2569 Dec 03 20:25	30° $\mathcal{R}\mathcal{B}$					
direct	2570 Jan 20 08:29	26° \mathcal{B} 27'48		conjunction	2575 Nov 18 22:29	26° \mathcal{M} 29'03	0°49'17
	2570 Mar 08 10:34	0° \mathcal{I}		minimum elong	2575 Nov 18 22:31	26° \mathcal{M} 29'04	0°49'18
evening set	2570 May 26 14:49	15° \mathcal{I} 50'22		morning rise	2575 Dec 01 14:24	29° \mathcal{M} 16'04	
					2575 Dec 04 22:51	0° \mathcal{J}	
conjunction	2570 Jun 09 07:56	19° \mathcal{I} 02'27	0°-29'-4	retrograde	2576 Apr 01 02:34	16° \mathcal{J} 27'07	
minimum elong	2570 Jun 09 07:58	19° \mathcal{I} 02'28	0°29'05	opposition	2576 Jun 01 00:38	11° \mathcal{J} 35'11	0°53'35
max. Earth dist.	2570 Jun 11 15:58	19° \mathcal{I} 35'11	6.06371 AU	min. Earth dist.	2576 Jun 02 13:23	11° \mathcal{J} 23'28	4.35246 AU
morning rise	2570 Jun 23 02:54	22° \mathcal{I} 15'09		direct	2576 Aug 02 10:01	6° \mathcal{J} 35'21	
	2570 Jul 27 22:46	0° \mathcal{S}		evening set	2576 Dec 06 03:07	24° \mathcal{J} 34'12	
retrograde	2570 Oct 29 18:37	11° \mathcal{S} 41'48		max. Earth dist.	2576 Dec 16 17:28	26° \mathcal{J} 57'38	6.28808 AU
min. Earth dist.	2570 Dec 27 00:01	6° \mathcal{S} 48'38	4.13381 AU				
opposition	2570 Dec 28 09:17	6° \mathcal{S} 37'19	0°-15'-50	conjunction	2576 Dec 18 19:29	27° \mathcal{J} 25'57	0°20'51
direct	2571 Feb 25 07:42	1° \mathcal{S} 37'44		minimum elong	2576 Dec 18 19:30	27° \mathcal{J} 25'57	0°20'50
asc. node	2571 Apr 20 21:00	6° \mathcal{S} 06'43			2576 Dec 30 03:48	0° \mathcal{Z}	
evening set	2571 Jul 01 20:40	20° \mathcal{S} 21'33		morning rise	2576 Dec 31 10:43	0° \mathcal{Z} 17'25	
				retrograde	2577 May 04 17:50	18° \mathcal{Z} 20'15	
conjunction	2571 Jul 15 14:06	23° \mathcal{S} 27'12	0°08'02	opposition	2577 Jul 04 13:26	13° \mathcal{Z} 27'21	0°04'46
minimum elong	2571 Jul 15 14:05	23° \mathcal{S} 27'12	0°08'01	min. Earth dist.	2577 Jul 05 23:03	13° \mathcal{Z} 16'35	4.21597 AU
behind sun begin	2571 Jul 15 06:41	23° \mathcal{S} 23'02		desc. node	2577 Aug 08 14:41	9° \mathcal{Z} 33'50	
behind sun end	2571 Jul 15 21:29	23° \mathcal{S} 31'21		direct	2577 Sep 03 23:34	8° \mathcal{Z} 29'57	
max. Earth dist.	2571 Jul 17 11:17	23° \mathcal{S} 52'42	6.20909 AU	evening set	2578 Jan 07 09:06	27° \mathcal{Z} 05'20	
morning rise	2571 Jul 29 07:07	26° \mathcal{S} 32'23		max. Earth dist.	2578 Jan 18 12:32	29° \mathcal{Z} 41'15	6.14244 AU
	2571 Aug 13 23:27	0° \mathcal{Q}			2578 Jan 19 20:34	0° \approx	
retrograde	2571 Dec 01 09:22	14° \mathcal{Q} 48'33					
min. Earth dist.	2572 Jan 29 07:20	9° \mathcal{Q} 54'04	4.28159 AU	conjunction	2578 Jan 20 02:30	0° \approx 03'28	0°-15'-12
opposition	2572 Jan 30 04:42	9° \mathcal{Q} 46'54	0°37'25	minimum elong	2578 Jan 20 02:29	0° \approx 03'27	0°15'13
direct	2572 Mar 30 10:14	4° \mathcal{Q} 45'08		behind sun begin	2578 Jan 19 23:33	0° \approx 01'44	
	2572 Jun 27 13:35	15° \mathcal{Q}		behind sun end	2578 Jan 20 05:25	0° \approx 05'09	
evening set	2572 Aug 04 03:54	22° \mathcal{Q} 50'41		morning rise	2578 Feb 01 20:29	3° \approx 02'08	
					2578 Mar 29 23:48	15° \approx	
conjunction	2572 Aug 17 16:11	25° \mathcal{Q} 48'16	0°40'49	retrograde	2578 Jun 09 16:24	22° \approx 13'17	
minimum elong	2572 Aug 17 16:09	25° \mathcal{Q} 48'15	0°40'49	opposition	2578 Aug 09 06:02	17° \approx 17'46	0°-48'-59
max. Earth dist.	2572 Aug 18 10:14	25° \mathcal{Q} 58'10	6.34760 AU	min. Earth dist.	2578 Aug 09 23:05	17° \approx 12'14	4.07202 AU
morning rise	2572 Aug 31 02:49	28° \mathcal{Q} 44'47			2578 Aug 27 15:34	15° $\mathcal{R}\approx$	
	2572 Sep 05 21:36	0° η		direct	2578 Oct 08 04:58	12° \approx 22'47	
retrograde	2572 Dec 31 05:48	16° η 04'17			2578 Nov 18 01:07	15° \approx	
opposition	2573 Mar 01 08:34	11° η 06'20	1°16'23		2579 Feb 03 17:21	0° \mathcal{K}	
min. Earth dist.	2573 Mar 01 05:46	11° η 07'15	4.40076 AU	evening set	2579 Feb 10 14:07	1° \mathcal{K} 37'42	
direct	2573 May 01 21:33	6° η 03'30					

conjunction	2579 Feb 23 11:42	4° ✕ 43'11	0°-47'-38	max. Earth dist.	2584 Aug 22 20:28	0° mp 23'45	6.36114 AU
minimum elong	2579 Feb 23 11:40	4° ✕ 43'10	0°47'39	morning rise	2584 Sep 04 14:39	3° mp 10'56	
max. Earth dist.	2579 Feb 23 02:13	4° ✕ 37'29	6.01309 AU	retrograde	2585 Jan 04 10:41	20° mp 25'28	
morning rise	2579 Mar 08 11:08	7° ✕ 49'53		opposition	2585 Mar 05 14:15	15° mp 28'07	1°20'05
retrograde	2579 Jul 17 13:32	28° ✕ 04'22		min. Earth dist.	2585 Mar 05 13:34	15° mp 28'21	4.41009 AU
opposition	2579 Sep 15 16:17	23° ✕ 05'10	-1°-27'-49	direct	2585 May 06 05:45	10° mp 25'20	
min. Earth dist.	2579 Sep 15 11:39	23° ✕ 06'42	3.97030 AU	evening set	2585 Sep 09 23:20	28° mp 02'36	
direct	2579 Nov 13 08:02	18° ✕ 11'31			2585 Sep 19 01:19	0° u	
	2580 Feb 12 20:16	0° Y					
evening set	2580 Mar 17 19:59	7° Y 53'27		conjunction	2585 Sep 23 03:26	0° u 53'02	1°02'00
				minimum elong	2585 Sep 23 03:25	0° u 53'01	1°02'00
conjunction	2580 Mar 31 00:25	11° Y 05'00	-1°-3'-12	max. Earth dist.	2585 Sep 22 12:54	0° u 45'10	6.44280 AU
minimum elong	2580 Mar 31 00:25	11° Y 05'00	1°03'14	morning rise	2585 Oct 06 04:58	3° u 42'06	
max. Earth dist.	2580 Apr 01 00:02	11° Y 19'19	5.94817 AU	retrograde	2586 Feb 03 12:43	20° u 28'57	
morning rise	2580 Apr 13 07:53	14° Y 18'12		opposition	2586 Apr 04 23:58	15° u 34'45	1°33'18
	2580 Jun 26 21:41	0° 8		min. Earth dist.	2586 Apr 05 17:58	15° u 28'56	4.45826 AU
retrograde	2580 Aug 23 19:23	5° 8 00'44		direct	2586 Jun 06 12:24	10° u 32'11	
min. Earth dist.	2580 Oct 21 11:23	0° 8 06'34	3.95105 AU	evening set	2586 Oct 10 22:41	28° u 00'55	
opposition	2580 Oct 22 13:23	29° Y 57'47	-1°-32'-49		2586 Oct 20 03:18	0° u	
	2580 Oct 22 06:51	30° R Y		max. Earth dist.	2586 Oct 22 08:16	0° u 28'43	6.45340 AU
direct	2580 Dec 19 10:27	25° Y 03'25					
	2581 Feb 13 08:38	0° 8		conjunction	2586 Oct 23 20:30	0° u 48'22	1°02'27
evening set	2581 Apr 24 07:47	14° 8 46'07		minimum elong	2586 Oct 23 20:31	0° u 48'22	1°02'26
	2581 Apr 25 07:06	15° 8		morning rise	2586 Nov 05 15:28	3° u 34'34	
					2587 Jan 03 08:09	15° u	
conjunction	2581 May 07 20:08	18° 8 00'05	0°-53'-58	retrograde	2587 Mar 05 21:53	20° u 22'13	
minimum elong	2581 May 07 20:10	18° 8 00'06	0°54'00	opposition	2587 May 05 17:05	15° u 29'54	1°21'46
max. Earth dist.	2581 May 09 21:09	18° 8 29'26	5.97562 AU	min. Earth dist.	2587 May 06 23:58	15° u 20'02	4.43155 AU
morning rise	2581 May 21 11:28	21° 8 15'25			2587 May 09 14:47	15° R u	
	2581 Jun 29 00:38	0° II		direct	2587 Jul 07 10:16	10° u 28'30	
retrograde	2581 Sep 29 17:35	11° II 33'58			2587 Sep 02 23:14	15° u	
min. Earth dist.	2581 Nov 26 20:36	6° II 41'02	4.02224 AU	evening set	2587 Nov 10 12:08	28° u 06'06	
opposition	2581 Nov 28 07:55	6° II 28'59	-1°00'-55		2587 Nov 19 03:23	0° u	
direct	2582 Jan 25 10:29	1° II 32'00		max. Earth dist.	2587 Nov 21 04:11	0° u 26'57	6.39075 AU
evening set	2582 May 31 16:29	20° II 49'04					
				conjunction	2587 Nov 23 05:42	0° u 54'19	0°45'59
conjunction	2582 Jun 14 10:07	24° II 00'26	0°-24'-11	minimum elong	2587 Nov 23 05:44	0° u 54'20	0°45'59
minimum elong	2582 Jun 14 10:09	24° II 00'27	0°24'12	morning rise	2587 Dec 05 21:21	3° u 41'44	
max. Earth dist.	2582 Jun 16 18:30	24° II 33'12	6.08359 AU	retrograde	2588 Apr 05 17:52	20° u 58'27	
morning rise	2582 Jun 28 05:01	27° II 12'13		opposition	2588 Jun 05 14:53	16° u 06'30	0°47'31
	2582 Jul 10 11:20	0° u		min. Earth dist.	2588 Jun 07 04:32	15° u 54'30	4.33619 AU
retrograde	2582 Nov 03 10:15	16° u 28'57		direct	2588 Aug 06 22:48	11° u 06'58	
min. Earth dist.	2582 Dec 31 16:32	11° u 35'39	4.15441 AU	evening set	2588 Dec 10 13:42	29° u 09'57	
opposition	2583 Jan 02 00:21	11° u 24'51	0°-8'-10		2588 Dec 14 06:20	0° u	
asc. node	2583 Mar 01 17:36	6° u 24'59		max. Earth dist.	2588 Dec 21 04:08	1° u 34'03	6.26992 AU
direct	2583 Mar 02 02:29	6° u 24'58					
evening set	2583 Jul 06 16:28	25° u 03'21		conjunction	2588 Dec 23 06:01	2° u 02'24	0°16'01
				minimum elong	2588 Dec 23 06:01	2° u 02'24	0°16'01
conjunction	2583 Jul 20 09:18	28° u 07'56	0°13'01	behind sun begin	2588 Dec 23 04:36	2° u 01'36	
minimum elong	2583 Jul 20 09:17	28° u 07'55	0°13'02	behind sun end	2588 Dec 23 07:27	2° u 03'12	
behind sun begin	2583 Jul 20 04:27	28° u 05'12		morning rise	2589 Jan 04 21:31	4° u 54'42	
behind sun end	2583 Jul 20 14:08	28° u 10'38		retrograde	2589 May 09 14:09	23° u 05'45	
max. Earth dist.	2583 Jul 22 01:48	28° u 30'41	6.22865 AU	desc. node	2589 Jun 18 04:26	20° u 47'10	
	2583 Jul 28 16:57	0° u		opposition	2589 Jul 09 10:13	18° u 12'30	0°-2'-53
morning rise	2583 Aug 03 01:50	1° u 12'00		min. Earth dist.	2589 Jul 10 17:20	18° u 02'31	4.19696 AU
	2583 Oct 12 18:06	15° u		direct	2589 Sep 08 15:08	13° u 15'25	
retrograde	2583 Dec 05 17:22	19° u 19'54			2590 Jan 03 16:36	0° u	
	2584 Jan 29 10:05	15° R u		evening set	2590 Jan 12 00:49	1° u 55'45	
opposition	2584 Feb 03 13:35	14° u 18'46	0°43'52	max. Earth dist.	2590 Jan 23 08:55	4° u 34'59	6.12412 AU
min. Earth dist.	2584 Feb 02 18:58	14° u 25'00	4.29868 AU				
direct	2584 Apr 03 23:25	9° u 16'47		conjunction	2590 Jan 24 18:38	4° u 54'47	0°-20'-16
	2584 Jun 07 00:21	15° u		minimum elong	2590 Jan 24 18:37	4° u 54'47	0°20'17
evening set	2584 Aug 08 17:42	27° u 18'44		morning rise	2590 Feb 06 13:03	7° u 54'27	
	2584 Aug 21 01:05	0° u			2590 Mar 09 23:34	15° u	
				retrograde	2590 Jun 14 21:28	27° u 14'36	
conjunction	2584 Aug 22 05:16	0° u 15'26	0°44'26	opposition	2590 Aug 14 09:12	22° u 18'38	0°-55'-48
minimum elong	2584 Aug 22 05:13	0° u 15'25	0°44'25	min. Earth dist.	2590 Aug 15 00:32	22° u 13'38	4.05579 AU

direct	2590 Oct 13 04:51	17°  23'53		conjunction	2596 Aug 26 20:16	4°  47'47	0°47'53
	2591 Jan 17 12:04	0° 		minimum elong	2596 Aug 26 20:14	4°  47'46	0°47'53
evening set	2591 Feb 15 12:27	6°  43'06		max. Earth dist.	2596 Aug 27 07:09	4°  53'43	6.37553 AU
				morning rise	2596 Sep 09 04:43	7°  42'16	
conjunction	2591 Feb 28 10:44	9°  49'27	0°-51'-5	retrograde	2597 Jan 08 17:35	24°  51'26	
minimum elong	2591 Feb 28 10:42	9°  49'26	0°51'05	opposition	2597 Mar 09 22:23	19°  54'32	1°23'25
max. Earth dist.	2591 Feb 28 04:40	9°  45'48	6.00036 AU	min. Earth dist.	2597 Mar 09 23:54	19°  54'02	4.42161 AU
morning rise	2591 Mar 13 11:15	12°  57'11		direct	2597 May 10 17:22	14°  51'45	
	2591 Jun 06 08:22	0° 			2597 Sep 02 22:05	0° 	
retrograde	2591 Jul 22 20:26	3°  17'44		evening set	2597 Sep 14 10:05	2°  26'25	
	2591 Sep 07 21:07	30° 					
opposition	2591 Sep 20 22:25	28°  18'00	-1°-30'-48	conjunction	2597 Sep 27 13:17	5°  16'08	1°03'08
min. Earth dist.	2591 Sep 20 14:00	28°  20'48	3.96268 AU	minimum elong	2597 Sep 27 13:17	5°  16'08	1°03'07
direct	2591 Nov 18 09:46	23°  24'21		max. Earth dist.	2597 Sep 26 21:22	5°  07'32	6.45090 AU
	2592 Jan 23 00:58	0° 		morning rise	2597 Oct 10 13:34	8°  04'26	
evening set	2592 Mar 22 23:49	13°  08'03		retrograde	2598 Feb 07 17:36	24°  48'48	
				opposition	2598 Apr 09 07:06	19°  54'58	1°33'08
conjunction	2592 Apr 05 05:18	16°  20'10	-1°-3'-26	min. Earth dist.	2598 Apr 10 02:12	19°  48'48	4.46270 AU
minimum elong	2592 Apr 05 05:19	16°  20'10	1°03'26	direct	2598 Jun 10 20:51	14°  52'36	
max. Earth dist.	2592 Apr 06 08:22	16°  36'35	5.94626 AU		2598 Oct 04 06:56	0° 	
morning rise	2592 Apr 18 13:55	19°  33'58		evening set	2598 Oct 15 06:01	2°  20'06	
	2592 Jun 03 14:41	0° 		max. Earth dist.	2598 Oct 26 11:39	4°  45'55	6.45384 AU
retrograde	2592 Aug 29 00:29	10°  16'24					
opposition	2592 Oct 27 18:10	5°  12'59	-1°-30'-21	conjunction	2598 Oct 28 02:51	5°  07'12	1°01'07
min. Earth dist.	2592 Oct 26 14:37	5°  22'19	3.95502 AU	minimum elong	2598 Oct 28 02:52	5°  07'12	1°01'07
direct	2592 Dec 24 15:18	0°  18'16		morning rise	2598 Nov 09 21:13	7°  53'08	
	2593 Apr 08 04:29	15° 			2598 Dec 14 06:36	15° 	
evening set	2593 Apr 29 13:14	19°  59'09		retrograde	2599 Mar 10 06:21	24°  41'25	
				opposition	2599 May 10 01:41	19°  49'14	1°18'14
conjunction	2593 May 13 02:45	23°  13'10	0°-50'-47	min. Earth dist.	2599 May 11 10:35	19°  38'44	4.42789 AU
minimum elong	2593 May 13 02:47	23°  13'12	0°50'48		2599 Jun 30 07:54	15°  48'03	
max. Earth dist.	2593 May 15 07:05	23°  44'24	5.98515 AU	direct	2599 Jul 11 20:05	14°  48'03	
morning rise	2593 May 26 18:49	26°  28'25			2599 Jul 23 08:56	15° 	
	2593 Jun 10 21:09	0° 			2599 Nov 03 12:35	0° 	
retrograde	2593 Oct 04 18:24	16°  40'36		evening set	2599 Nov 14 17:52	2°  26'09	
min. Earth dist.	2593 Dec 01 19:59	11°  47'36	4.03610 AU	max. Earth dist.	2599 Nov 25 09:05	4°  26'50	6.38320 AU
opposition	2593 Dec 03 07:16	11°  35'35	0°-54'-15				
direct	2594 Jan 30 12:07	6°  38'11		conjunction	2599 Nov 27 11:07	5°  21'43	0°42'33
evening set	2594 Jun 05 19:45	25°  51'00		minimum elong	2599 Nov 27 11:09	5°  21'43	0°42'32
				morning rise	2599 Dec 10 02:23	8°  20'08	
conjunction	2594 Jun 19 13:32	29°  01'42	0°-19'-4	retrograde	2600 Apr 11 03:59	25°  22'52	
minimum elong	2594 Jun 19 13:33	29°  01'43	0°19'05	opposition	2600 Jun 11 02:51	20°  23'47	0°41'21
max. Earth dist.	2594 Jun 21 19:45	29°  33'05	6.10040 AU	min. Earth dist.	2600 Jun 12 15:35	20°  23'47	4.32505 AU
	2594 Jun 23 18:17	0° 		direct	2600 Aug 12 07:35	15°  23'13	
morning rise	2594 Jul 03 08:40	2°  12'44			2600 Nov 29 14:41	0° 	
retrograde	2594 Nov 08 01:18	21°  20'32		evening set	2600 Dec 15 21:03	3°  37'04	
min. Earth dist.	2595 Jan 05 09:58	16°  27'10	4.17247 AU	max. Earth dist.	2600 Dec 26 12:36	6°  02'16	6.25599 AU
opposition	2595 Jan 06 16:49	16°  16'42	0°00'-20				
asc. node	2595 Jan 09 05:59	15°  55'58		conjunction	2600 Dec 28 13:14	6°  30'01	0°11'16
direct	2595 Mar 06 22:30	11°  16'26		minimum elong	2600 Dec 28 13:15	6°  30'02	0°11'16
evening set	2595 Jul 11 14:29	29°  50'14		behind sun begin	2600 Dec 28 07:19	6°  26'40	
	2595 Jul 12 08:01	0° 		behind sun end	2600 Dec 28 19:10	6°  33'23	
conjunction	2595 Jul 25 06:58	2°  53'51	0°18'03				
minimum elong	2595 Jul 25 06:56	2°  53'50	0°18'04				
max. Earth dist.	2595 Jul 26 21:05	3°  15'12	6.24678 AU				
morning rise	2595 Aug 07 22:36	5°  56'47					
	2595 Sep 20 03:16	15° 					
retrograde	2595 Dec 10 04:32	23°  56'39					
min. Earth dist.	2596 Feb 07 08:25	19°  01'31	4.31550 AU				
opposition	2596 Feb 08 00:45	18°  56'04	0°50'13				
	2596 Mar 13 04:00	15° 					
direct	2596 Apr 08 14:52	13°  53'58					
	2596 May 05 09:43	15° 					
	2596 Aug 04 17:45	0° 					
evening set	2596 Aug 13 09:47	1°  52'04					

retrograde	2600 Apr 11 03:59	25°♂22'52			2605 May 26 03:22	0°♂	
opposition	2600 Jun 11 02:51	20°♂30'47	0°41'21	morning rise	2605 Jun 02 01:10	1°♂38'13	
min. Earth dist.	2600 Jun 12 15:35	20°♂19'05	4.32505 AU	retrograde	2605 Oct 10 16:32	21°♂45'34	
direct	2600 Aug 12 07:35	15°♂31'34		min. Earth dist.	2605 Dec 07 17:10	16°♂52'55	4.04654 AU
	2600 Nov 29 14:41	0°♂		opposition	2605 Dec 09 05:27	16°♂40'32	0°-47'-19
evening set	2600 Dec 15 21:03	3°♂37'04		direct	2606 Feb 05 11:34	11°♂42'44	
max. Earth dist.	2600 Dec 26 12:36	6°♂02'16	6.25599 AU		2606 Jun 08 02:43	0°♂	
				evening set	2606 Jun 11 22:47	0°♂52'42	
conjunction	2600 Dec 28 13:14	6°♂30'01	0°11'16				
minimum elong	2600 Dec 28 13:15	6°♂30'02	0°11'16	conjunction	2606 Jun 25 16:57	4°♂02'53	0°-13'-51
behind sun begin	2600 Dec 28 07:19	6°♂26'40		minimum elong	2606 Jun 25 16:58	4°♂02'54	0°13'53
behind sun end	2600 Dec 28 19:10	6°♂33'23		behind sun begin	2606 Jun 25 12:51	4°♂00'32	
morning rise	2601 Jan 10 04:49	9°♂22'56		behind sun end	2606 Jun 25 21:05	4°♂05'16	
desc. node	2601 May 01 02:20	27°♂22'07		max. Earth dist.	2606 Jun 27 22:55	4°♂34'01	6.11492 AU
retrograde	2601 May 15 08:39	27°♂41'08		morning rise	2606 Jul 09 11:58	7°♂13'13	
opposition	2601 Jul 15 03:25	22°♂47'38	0°-10'-14	retrograde	2606 Nov 13 18:46	26°♂12'53	
min. Earth dist.	2601 Jul 16 10:30	22°♂37'39	4.18090 AU	asc. node	2606 Nov 19 20:53	26°♂09'08	
direct	2601 Sep 14 05:44	17°♂50'51		min. Earth dist.	2607 Jan 11 04:21	21°♂19'14	4.18931 AU
	2601 Dec 19 08:24	0°♂		opposition	2607 Jan 12 09:33	21°♂09'21	0°07'24
evening set	2602 Jan 17 12:43	6°♂35'27		direct	2607 Mar 12 19:30	16°♂08'46	
max. Earth dist.	2602 Jan 28 22:27	9°♂16'15	6.10729 AU		2607 Jun 26 05:39	0°♂	
				evening set	2607 Jul 17 12:28	4°♂38'04	
conjunction	2602 Jan 30 06:54	9°♂35'22	0°-24'-59				
minimum elong	2602 Jan 30 06:53	9°♂35'21	0°25'01	conjunction	2607 Jul 31 04:20	7°♂40'40	0°22'57
morning rise	2602 Feb 12 01:58	12°♂36'01		minimum elong	2607 Jul 31 04:18	7°♂40'39	0°22'56
	2602 Feb 22 09:39	15°♂		max. Earth dist.	2607 Aug 01 16:14	8°♂00'41	6.26446 AU
	2602 May 15 00:56	0°♂		morning rise	2607 Aug 13 19:13	10°♂42'29	
retrograde	2602 Jun 20 20:16	2°♂04'51			2607 Sep 02 13:41	15°♂	
	2602 Jul 27 21:18	30°♂		retrograde	2607 Dec 15 13:23	28°♂34'21	
opposition	2602 Aug 20 07:41	27°♂08'29	-1°-1'-58	opposition	2608 Feb 13 12:00	23°♂34'09	0°56'11
min. Earth dist.	2602 Aug 20 20:07	27°♂04'25	4.03974 AU	min. Earth dist.	2608 Feb 12 20:52	23°♂39'12	4.33247 AU
direct	2602 Oct 18 21:46	22°♂13'57		direct	2608 Apr 14 05:54	18°♂31'50	
	2602 Dec 30 16:31	0°♂			2608 Jul 19 08:01	0°♂	
evening set	2603 Feb 21 06:57	11°♂38'00		evening set	2608 Aug 19 01:25	6°♂25'41	
conjunction	2603 Mar 06 06:04	14°♂45'22	0°-54'-2	conjunction	2608 Sep 01 10:54	9°♂20'22	0°51'02
minimum elong	2603 Mar 06 06:02	14°♂45'21	0°54'03	minimum elong	2608 Sep 01 10:52	9°♂20'21	0°51'02
max. Earth dist.	2603 Mar 06 03:19	14°♂43'43	5.98648 AU	max. Earth dist.	2608 Sep 01 18:40	9°♂24'35	6.39029 AU
morning rise	2603 Mar 19 07:34	17°♂54'10		morning rise	2608 Sep 14 18:04	12°♂13'45	
	2603 May 12 22:17	0°♂		retrograde	2609 Jan 14 00:06	29°♂17'20	
retrograde	2603 Jul 29 01:12	8°♂21'48		opposition	2609 Mar 15 06:11	24°♂20'52	1°26'16
opposition	2603 Sep 27 00:52	3°♂21'33	-1°-33'-2	min. Earth dist.	2609 Mar 15 10:23	24°♂19'29	4.43287 AU
min. Earth dist.	2603 Sep 26 14:33	3°♂25'00	3.95247 AU	direct	2609 May 16 05:24	19°♂18'02	
	2603 Oct 24 21:35	30°♂			2609 Aug 17 15:08	0°♂	
direct	2603 Nov 24 09:16	28°♂27'52		evening set	2609 Sep 19 20:13	6°♂50'02	
	2603 Dec 24 15:35	0°♂					
evening set	2604 Mar 29 00:36	18°♂14'49		conjunction	2609 Oct 02 22:20	9°♂39'04	1°03'53
				minimum elong	2609 Oct 02 22:19	9°♂39'03	1°03'52
conjunction	2604 Apr 11 07:26	21°♂27'48	-1°-3'-10	max. Earth dist.	2609 Oct 02 01:50	9°♂28'01	6.45738 AU
minimum elong	2604 Apr 11 07:27	21°♂27'48	1°03'10	morning rise	2609 Oct 15 21:44	12°♂26'44	
max. Earth dist.	2604 Apr 12 15:15	21°♂47'06	5.94081 AU	retrograde	2610 Feb 12 23:49	29°♂09'19	
morning rise	2604 Apr 24 17:12	24°♂42'24		opposition	2610 Apr 14 14:26	24°♂15'42	1°32'27
	2604 May 17 04:25	0°♂		min. Earth dist.	2610 Apr 15 12:00	24°♂08'45	4.46397 AU
	2604 Aug 18 21:01	15°♂		direct	2610 Jun 16 06:13	19°♂13'22	
retrograde	2604 Sep 04 05:24	15°♂26'17			2610 Sep 18 06:48	0°♂	
	2604 Sep 20 10:24	15°♂		evening set	2610 Oct 20 12:58	6°♂40'39	
opposition	2604 Nov 02 20:29	10°♂22'36	-1°-27'-17	max. Earth dist.	2610 Oct 31 17:04	9°♂05'48	6.44964 AU
min. Earth dist.	2604 Nov 01 15:30	10°♂32'25	3.95517 AU				
direct	2604 Dec 30 16:15	5°♂27'40		conjunction	2610 Nov 02 09:15	9°♂27'39	0°59'25
	2605 Mar 21 12:33	15°♂		minimum elong	2610 Nov 02 09:17	9°♂27'39	0°59'25
evening set	2605 May 05 17:39	25°♂08'36		morning rise	2610 Nov 15 02:49	12°♂13'29	
					2610 Nov 28 02:26	15°♂	
conjunction	2605 May 19 08:02	28°♂22'48	0°-47'-16	retrograde	2611 Mar 15 14:22	29°♂04'09	
minimum elong	2605 May 19 08:04	28°♂22'50	0°47'17	opposition	2611 May 15 11:31	24°♂12'02	1°14'13
max. Earth dist.	2605 May 21 12:56	28°♂54'18	5.99077 AU	min. Earth dist.	2611 May 16 21:10	24°♂01'19	4.41834 AU

direct	2611 Jul 17 04:53	19° \mathbb{M} 11'05		2617 Feb 25 03:50	15° \mathcal{B}	
	2611 Oct 18 13:33	0° \mathcal{Z}		2617 May 09 04:59	0° \mathbb{I}	
evening set	2611 Nov 20 01:27	6° \mathcal{Z} 51'40		2617 May 11 02:07	0° \mathbb{I} 26'36	
max. Earth dist.	2611 Nov 30 14:33	9° \mathcal{Z} 11'42	6.36892 AU			
				conjunction	2617 May 24 17:27	3° \mathbb{I} 40'31 0°-43'-16
conjunction	2611 Dec 02 18:14	9° \mathcal{Z} 40'24	0°38'45	minimum elong	2617 May 24 17:29	3° \mathbb{I} 40'33 0°43'17
minimum elong	2611 Dec 02 18:16	9° \mathcal{Z} 40'25	0°38'45	max. Earth dist.	2617 May 27 00:57	4° \mathbb{I} 13'28 6.00573 AU
morning rise	2611 Dec 15 09:28	12° \mathcal{Z} 28'33		morning rise	2617 Jun 07 11:05	6° \mathbb{I} 55'27
retrograde	2612 Apr 15 20:17	29° \mathcal{Z} 55'44		retrograde	2617 Oct 15 16:48	26° \mathbb{I} 53'52
opposition	2612 Jun 15 18:16	25° \mathcal{Z} 03'31	0°34'42	min. Earth dist.	2617 Dec 12 17:50	22° \mathbb{I} 00'58 4.06657 AU
min. Earth dist.	2612 Jun 17 07:52	24° \mathcal{Z} 51'32	4.30665 AU	opposition	2617 Dec 14 05:23	21° \mathbb{I} 48'51 0°-39'-55
direct	2612 Aug 16 21:11	20° \mathcal{Z} 04'32		direct	2618 Feb 10 15:33	16° \mathbb{I} 50'37
	2612 Nov 12 01:25	0° \mathcal{Z}			2618 May 21 14:45	0° \mathcal{G}
evening set	2612 Dec 20 08:23	8° \mathcal{Z} 14'59		evening set	2618 Jun 17 02:20	5° \mathcal{G} 54'06
max. Earth dist.	2612 Dec 31 01:11	10° \mathcal{Z} 41'34	6.23504 AU			
				conjunction	2618 Jun 30 20:27	9° \mathcal{G} 03'13 0°-8'-33
conjunction	2613 Jan 02 00:49	11° \mathcal{Z} 08'51	0°06'14	minimum elong	2618 Jun 30 20:28	9° \mathcal{G} 03'13 0°08'34
minimum elong	2613 Jan 02 00:49	11° \mathcal{Z} 08'51	0°06'15	behind sun begin	2618 Jun 30 13:12	8° \mathcal{G} 59'05
behind sun begin	2613 Jan 01 17:15	11° \mathcal{Z} 04'33		behind sun end	2618 Jul 01 03:43	9° \mathcal{G} 07'22
behind sun end	2613 Jan 02 08:22	11° \mathcal{Z} 13'10		max. Earth dist.	2618 Jul 03 01:42	9° \mathcal{G} 33'45 6.13818 AU
morning rise	2613 Jan 14 16:40	14° \mathcal{Z} 02'46		morning rise	2618 Jul 14 15:11	12° \mathcal{G} 12'20
desc. node	2613 Mar 10 13:50	25° \mathcal{Z} 31'15		asc. node	2618 Sep 29 11:42	27° \mathcal{G} 14'29
	2613 Apr 09 11:13	0° \approx			2618 Oct 24 06:44	0° \mathcal{Q}
retrograde	2613 May 20 07:09	2° \approx 30'35		retrograde	2618 Nov 18 07:36	1° \mathcal{Q} 00'45
	2613 Jun 30 15:51	30° \mathcal{R} \mathcal{Z}			2618 Dec 13 04:30	30° \mathcal{R} \mathcal{G}
opposition	2613 Jul 20 02:11	27° \mathcal{Z} 36'45	0°-17'-57	min. Earth dist.	2619 Jan 15 20:08	26° \mathcal{G} 07'15 4.21350 AU
min. Earth dist.	2613 Jul 21 06:47	27° \mathcal{Z} 27'33	4.15891 AU	opposition	2619 Jan 17 00:41	25° \mathcal{G} 57'36 0°15'00
direct	2613 Sep 18 22:56	22° \mathcal{Z} 40'18		direct	2619 Mar 17 14:28	20° \mathcal{G} 56'42
	2613 Nov 29 18:22	0° \approx			2619 Jun 07 16:12	0° \mathcal{Q}
evening set	2614 Jan 22 06:53	11° \approx 31'09		evening set	2619 Jul 22 08:18	9° \mathcal{Q} 19'21
max. Earth dist.	2614 Feb 02 20:21	14° \approx 14'53	6.08617 AU			
				conjunction	2619 Aug 04 23:19	12° \mathcal{Q} 20'36 0°27'35
conjunction	2614 Feb 04 01:32	14° \approx 32'10	0°-29'-50	minimum elong	2619 Aug 04 23:17	12° \mathcal{Q} 20'35 0°27'35
minimum elong	2614 Feb 04 01:31	14° \approx 32'09	0°29'51	max. Earth dist.	2619 Aug 06 06:36	12° \mathcal{Q} 37'58 6.28757 AU
	2614 Feb 06 00:32	15° \approx			2619 Aug 16 23:05	15° \mathcal{Q}
morning rise	2614 Feb 16 21:23	17° \approx 34'04		morning rise	2619 Aug 18 13:14	15° \mathcal{Q} 21'01
	2614 Apr 15 17:00	0° \mathcal{H}			2619 Nov 04 22:34	0° \mathcal{H}
retrograde	2614 Jun 26 04:45	7° \mathcal{H} 13'14		retrograde	2619 Dec 19 21:26	3° \mathcal{H} 03'42
opposition	2614 Aug 25 13:46	2° \mathcal{H} 16'20	-1°-8'-6		2620 Feb 02 21:36	30° \mathcal{R} \mathcal{Q}
min. Earth dist.	2614 Aug 25 23:38	2° \mathcal{H} 13'06	4.02140 AU	opposition	2620 Feb 17 20:32	28° \mathcal{Q} 04'02 1°01'38
	2614 Sep 12 14:53	30° \mathcal{R} \approx		min. Earth dist.	2620 Feb 17 08:59	28° \mathcal{Q} 07'52 4.35262 AU
direct	2614 Oct 23 23:48	27° \approx 22'00		direct	2620 Apr 18 20:21	23° \mathcal{Q} 01'34
	2614 Dec 03 12:36	0° \mathcal{H}			2620 Jun 29 23:21	0° \mathcal{H}
evening set	2615 Feb 26 09:03	16° \mathcal{H} 51'23		evening set	2620 Aug 23 13:32	10° \mathcal{H} 50'33
conjunction	2615 Mar 11 09:15	19° \mathcal{H} 59'50	0°-56'-46	conjunction	2620 Sep 05 22:01	13° \mathcal{H} 44'11 0°53'47
minimum elong	2615 Mar 11 09:14	19° \mathcal{H} 59'49	0°56'47	minimum elong	2620 Sep 05 21:59	13° \mathcal{H} 44'10 0°53'47
max. Earth dist.	2615 Mar 11 12:04	20° \mathcal{H} 01'32	5.97284 AU	max. Earth dist.	2620 Sep 06 01:36	13° \mathcal{H} 46'07 6.40578 AU
morning rise	2615 Mar 24 11:49	23° \mathcal{H} 09'45		morning rise	2620 Sep 19 04:02	16° \mathcal{H} 36'29
	2615 Apr 22 19:37	0° \mathcal{Y}			2620 Nov 29 22:21	0° \mathcal{L}
retrograde	2615 Aug 03 12:31	13° \mathcal{Y} 43'30		retrograde	2621 Jan 18 02:49	3° \mathcal{L} 34'59
opposition	2615 Oct 02 10:17	8° \mathcal{Y} 42'46	-1°-34'-38		2621 Mar 08 23:23	30° \mathcal{R} \mathcal{H}
min. Earth dist.	2615 Oct 01 20:51	8° \mathcal{Y} 47'15	3.94550 AU	opposition	2621 Mar 19 11:12	28° \mathcal{H} 38'57 1°28'33
direct	2615 Nov 29 14:55	3° \mathcal{Y} 49'06		min. Earth dist.	2621 Mar 19 17:43	28° \mathcal{H} 36'49 4.44291 AU
evening set	2616 Apr 03 08:44	23° \mathcal{Y} 37'39		direct	2621 May 20 12:56	23° \mathcal{H} 36'08
					2621 Jul 29 04:50	0° \mathcal{L}
conjunction	2616 Apr 16 16:35	26° \mathcal{Y} 51'09	-1°-2'-22	evening set	2621 Sep 24 03:14	11° \mathcal{L} 06'12
minimum elong	2616 Apr 16 16:36	26° \mathcal{Y} 51'10	1°02'23	max. Earth dist.	2621 Oct 06 04:43	13° \mathcal{L} 41'55 6.46115 AU
max. Earth dist.	2616 Apr 18 03:34	27° \mathcal{Y} 12'20	5.94117 AU			
	2616 Apr 29 17:14	0° \mathcal{B}		conjunction	2621 Oct 07 04:26	13° \mathcal{L} 54'43 1°04'16
morning rise	2616 Apr 30 03:44	0° \mathcal{B} 06'19		minimum elong	2621 Oct 07 04:25	13° \mathcal{L} 54'43 1°04'16
	2616 Jul 08 22:15	15° \mathcal{B}		morning rise	2621 Oct 20 02:48	16° \mathcal{L} 41'53
retrograde	2616 Sep 09 12:12	20° \mathcal{B} 48'16			2621 Dec 31 02:04	0° \mathbb{L}
min. Earth dist.	2616 Nov 06 19:36	15° \mathcal{B} 55'01	3.96313 AU	retrograde	2622 Feb 17 04:17	3° \mathbb{L} 23'59
opposition	2616 Nov 08 03:25	15° \mathcal{B} 44'13	-1°-23'-20		2622 Apr 07 00:55	30° \mathcal{R} \mathcal{L}
	2616 Nov 13 14:09	15° \mathcal{R} \mathcal{B}		opposition	2622 Apr 18 19:46	28° \mathcal{L} 30'44 1°31'18
direct	2617 Jan 04 23:09	10° \mathcal{B} 48'56		min. Earth dist.	2622 Apr 19 20:06	28° \mathcal{L} 22'55 4.46132 AU

direct	2622 Jun 20 13:25	23°♄28'34		direct	2627 Dec 04 23:00	9°♃15'01	
	2622 Aug 30 02:10	0°♄		evening set	2628 Apr 08 17:37	29°♃03'08	
evening set	2622 Oct 24 18:26	10°♄57'09			2628 Apr 12 16:06	0°♄	
max. Earth dist.	2622 Nov 04 17:39	13°♄20'05	6.44055 AU				
				conjunction	2628 Apr 22 02:44	2°♄16'55	-1°-1'-1
conjunction	2622 Nov 06 14:01	13°♄44'15	0°57'26	minimum elong	2628 Apr 22 02:45	2°♄16'56	1°01'03
minimum elong	2622 Nov 06 14:02	13°♄44'16	0°57'25	max. Earth dist.	2628 Apr 23 19:09	2°♄41'21	5.94679 AU
	2622 Nov 12 09:02	15°♄		morning rise	2628 May 05 14:47	5°♄32'14	
morning rise	2622 Nov 19 07:15	16°♄30'18			2628 Jun 16 03:23	15°♄	
	2623 Jan 30 16:16	0°♄		retrograde	2628 Sep 14 19:43	26°♄09'47	
retrograde	2623 Mar 20 00:03	3°♄25'13		min. Earth dist.	2628 Nov 12 01:11	21°♄16'24	3.97582 AU
	2623 May 08 07:57	30°♄		opposition	2628 Nov 13 09:38	21°♄05'21	-1°-18'-40
opposition	2623 May 19 20:54	28°♄33'12	1°09'52	direct	2629 Jan 10 07:13	16°♄09'41	
min. Earth dist.	2623 May 21 08:11	28°♄21'57	4.40338 AU		2629 Apr 21 14:03	0°♄	
direct	2623 Jul 21 13:08	23°♄32'26		evening set	2629 May 16 09:46	5°♄42'24	
	2623 Sep 29 01:41	0°♄					
evening set	2623 Nov 24 08:45	11°♄17'28		conjunction	2629 May 30 01:45	8°♄55'46	0°-38'-57
max. Earth dist.	2623 Dec 04 22:13	13°♄38'19	6.34924 AU	minimum elong	2629 May 30 01:47	8°♄55'47	0°38'58
				max. Earth dist.	2629 Jun 01 10:45	9°♄29'25	6.02401 AU
conjunction	2623 Dec 07 01:34	14°♄06'58	0°34'46	morning rise	2629 Jun 12 19:54	12°♄10'02	
minimum elong	2623 Dec 07 01:36	14°♄06'58	0°34'46		2629 Sep 15 08:25	0°♄	
morning rise	2623 Dec 19 16:38	16°♄55'53		retrograde	2629 Oct 20 13:12	1°♄58'12	
	2624 Feb 24 12:25	0°♄			2629 Nov 24 11:57	30°♄	
retrograde	2624 Apr 20 12:44	4°♄31'34		min. Earth dist.	2629 Dec 17 15:10	27°♄05'31	4.08839 AU
	2624 Jun 17 17:51	30°♄		opposition	2629 Dec 19 03:03	26°♄53'17	0°-32'-17
opposition	2624 Jun 20 10:54	29°♄39'16	0°27'49	direct	2630 Feb 15 15:45	21°♄54'38	
min. Earth dist.	2624 Jun 21 23:40	29°♄27'33	4.28350 AU		2630 May 01 23:39	0°♄	
direct	2624 Aug 21 09:31	24°♄40'41		evening set	2630 Jun 22 04:13	10°♄51'27	
	2624 Oct 21 19:45	0°♄					
evening set	2624 Dec 24 21:25	12°♄57'48		conjunction	2630 Jul 05 22:04	13°♄59'25	0°-3'-15
max. Earth dist.	2625 Jan 04 15:26	15°♄25'58	6.21029 AU	minimum elong	2630 Jul 05 22:06	13°♄59'26	0°03'16
				behind sun begin	2630 Jul 05 13:46	13°♄54'42	
conjunction	2625 Jan 06 13:54	15°♄52'45	0°01'06	behind sun end	2630 Jul 06 06:25	14°♄04'09	
minimum elong	2625 Jan 06 13:54	15°♄52'45	0°01'05	max. Earth dist.	2630 Jul 07 23:42	14°♄27'44	6.16160 AU
behind sun begin	2625 Jan 06 05:55	15°♄48'10		morning rise	2630 Jul 19 16:29	17°♄07'18	
behind sun end	2625 Jan 06 21:54	15°♄57'20		asc. node	2630 Aug 08 22:44	21°♄37'01	
desc. node	2625 Jan 18 02:09	18°♄31'45			2630 Sep 21 01:07	0°♄	
morning rise	2625 Jan 19 06:20	18°♄47'54		retrograde	2630 Nov 22 20:57	5°♄44'59	
	2625 Mar 13 05:50	0°♄		opposition	2631 Jan 21 14:25	0°♄42'15	0°22'25
retrograde	2625 May 25 10:52	7°♄27'00		min. Earth dist.	2631 Jan 20 12:53	0°♄50'51	4.23626 AU
opposition	2625 Jul 25 03:42	2°♄32'50	0°-25'-40		2631 Jan 26 20:06	30°♄	
min. Earth dist.	2625 Jul 26 06:15	2°♄24'15	4.13443 AU	direct	2631 Mar 22 10:22	25°♄41'01	
	2625 Aug 14 21:52	30°♄			2631 May 15 17:47	0°♄	
direct	2625 Sep 23 19:54	27°♄36'43		evening set	2631 Jul 27 02:32	13°♄57'41	
	2625 Nov 02 02:02	0°♄			2631 Jul 31 19:44	15°♄	
	2626 Jan 20 10:29	15°♄					
evening set	2626 Jan 27 03:53	16°♄34'42		conjunction	2631 Aug 09 16:53	16°♄57'46	0°32'02
				minimum elong	2631 Aug 09 16:52	16°♄57'45	0°32'03
conjunction	2626 Feb 08 23:19	19°♄36'58	0°-34'-32	max. Earth dist.	2631 Aug 10 21:26	17°♄13'32	6.30800 AU
minimum elong	2626 Feb 08 23:17	19°♄36'57	0°34'32	morning rise	2631 Aug 23 05:41	19°♄56'52	
max. Earth dist.	2626 Feb 07 23:11	19°♄22'38	6.06436 AU		2631 Oct 11 12:16	0°♄	
morning rise	2626 Feb 21 19:55	22°♄40'11		retrograde	2631 Dec 24 03:17	7°♄31'35	
	2626 Mar 25 22:42	0°♄		opposition	2632 Feb 22 04:29	2°♄32'27	1°06'44
retrograde	2626 Jul 01 15:32	12°♄29'32		min. Earth dist.	2632 Feb 21 18:48	2°♄35'40	4.36940 AU
opposition	2626 Aug 30 22:23	7°♄32'09	-1°-13'-47		2632 Mar 13 08:32	30°♄	
min. Earth dist.	2626 Aug 31 04:38	7°♄30'06	4.00471 AU	direct	2632 Apr 23 07:39	27°♄29'52	
direct	2626 Oct 29 02:31	2°♄38'06			2632 Jun 03 18:25	0°♄	
evening set	2627 Mar 03 14:01	22°♄12'01		evening set	2632 Aug 28 01:33	15°♄15'08	
conjunction	2627 Mar 16 15:04	25°♄21'22	0°-59'-4	conjunction	2632 Sep 10 08:52	18°♄07'50	0°56'16
minimum elong	2627 Mar 16 15:02	25°♄21'21	0°59'04	minimum elong	2632 Sep 10 08:50	18°♄07'49	0°56'15
max. Earth dist.	2627 Mar 16 22:08	25°♄25'39	5.96266 AU	max. Earth dist.	2632 Sep 10 07:13	18°♄06'56	6.41769 AU
morning rise	2627 Mar 29 18:56	28°♄32'17		morning rise	2632 Sep 23 13:50	20°♄59'13	
	2627 Apr 04 21:21	0°♄			2632 Nov 07 04:05	0°♄	
retrograde	2627 Aug 08 23:08	19°♄10'11		retrograde	2633 Jan 22 08:31	7°♄53'47	
opposition	2627 Oct 07 20:54	14°♄08'49	-1°-35'-23	opposition	2633 Mar 23 16:59	2°♄58'15	1°30'24
min. Earth dist.	2627 Oct 07 03:19	14°♄14'44	3.94320 AU	min. Earth dist.	2633 Mar 24 03:15	2°♄54'55	4.44942 AU

	2633 Apr 17 05:15	30° \mathbb{R} \mathbb{M}		min. Earth dist.	2638 Sep 05 07:59	12° \mathbb{X} 44'46	3.99372 AU
direct	2633 May 24 22:54	27° \mathbb{M} 55'26		direct	2638 Nov 03 05:47	7° \mathbb{X} 51'30	
	2633 Jul 01 23:30	0° \mathbb{A}		evening set	2639 Mar 08 17:29	27° \mathbb{X} 27'52	
evening set	2633 Sep 28 11:05	15° \mathbb{A} 24'30			2639 Mar 19 05:10	0° \mathbb{Y}	
max. Earth dist.	2633 Oct 10 07:57	17° \mathbb{A} 57'49	6.46165 AU				
				conjunction	2639 Mar 21 19:37	0° \mathbb{Y} 37'52	-1°00'-50
conjunction	2633 Oct 11 11:28	18° \mathbb{A} 12'40	1°04'19	minimum elong	2639 Mar 21 19:36	0° \mathbb{Y} 37'52	1°00'50
minimum elong	2633 Oct 11 11:28	18° \mathbb{A} 12'40	1°04'20	max. Earth dist.	2639 Mar 22 09:10	0° \mathbb{Y} 46'05	5.95810 AU
morning rise	2633 Oct 24 08:59	20° \mathbb{A} 59'30		morning rise	2639 Apr 04 00:22	3° \mathbb{Y} 49'26	
	2633 Dec 08 03:13	0° \mathbb{M}		retrograde	2639 Aug 14 08:35	24° \mathbb{Y} 29'03	
retrograde	2634 Feb 21 09:53	7° \mathbb{M} 42'05		min. Earth dist.	2639 Oct 12 08:51	19° \mathbb{Y} 33'45	3.94572 AU
opposition	2634 Apr 23 22:50	2° \mathbb{M} 49'04	1°29'41	opposition	2639 Oct 13 04:22	19° \mathbb{Y} 27'11	-1°-35'-17
min. Earth dist.	2634 Apr 24 04:40	2° \mathbb{M} 40'47	4.45603 AU	direct	2639 Dec 10 05:54	14° \mathbb{Y} 33'16	
	2634 May 16 11:49	30° \mathbb{R} \mathbb{A}			2640 Mar 26 16:14	0° \mathbb{B}	
direct	2634 Jun 24 20:19	27° \mathbb{A} 47'02		evening set	2640 Apr 13 23:34	4° \mathbb{B} 19'27	
	2634 Aug 03 08:24	0° \mathbb{M}					
	2634 Oct 27 16:55	15° \mathbb{M}		conjunction	2640 Apr 27 09:38	7° \mathbb{B} 33'16	0°-59'-13
evening set	2634 Oct 29 01:13	15° \mathbb{M} 17'28		minimum elong	2640 Apr 27 09:40	7° \mathbb{B} 33'17	0°59'14
max. Earth dist.	2634 Nov 08 23:08	17° \mathbb{M} 40'04	6.42987 AU	max. Earth dist.	2640 Apr 29 05:11	7° \mathbb{B} 59'30	5.95590 AU
				morning rise	2640 May 10 22:46	10° \mathbb{B} 48'37	
conjunction	2634 Nov 10 20:21	18° \mathbb{M} 04'46	0°55'05		2640 May 28 18:08	15° \mathbb{B}	
minimum elong	2634 Nov 10 20:22	18° \mathbb{M} 04'47	0°55'05		2640 Aug 22 01:18	0° \mathbb{I}	
morning rise	2634 Nov 23 13:01	20° \mathbb{M} 51'04		retrograde	2640 Sep 19 20:35	1° \mathbb{I} 20'18	
	2635 Jan 07 10:15	0° \mathbb{J}			2640 Oct 18 10:45	30° \mathbb{R} \mathbb{B}	
retrograde	2635 Mar 24 11:26	7° \mathbb{J} 50'41		min. Earth dist.	2640 Nov 17 00:57	26° \mathbb{B} 27'20	3.99057 AU
opposition	2635 May 24 08:39	2° \mathbb{J} 58'47	1°05'00	opposition	2640 Nov 18 11:10	26° \mathbb{B} 15'42	-1°-13'-30
min. Earth dist.	2635 May 25 21:01	2° \mathbb{J} 47'12	4.38789 AU	direct	2641 Jan 15 08:59	21° \mathbb{B} 19'40	
	2635 Jun 18 10:46	30° \mathbb{R} \mathbb{M}			2641 Apr 02 09:58	0° \mathbb{I}	
direct	2635 Jul 25 23:33	27° \mathbb{M} 58'21		evening set	2641 May 21 13:16	10° \mathbb{I} 47'15	
	2635 Sep 01 09:01	0° \mathbb{J}					
evening set	2635 Nov 28 18:07	15° \mathbb{J} 47'42		conjunction	2641 Jun 04 05:42	13° \mathbb{I} 59'59	0°-34'-28
max. Earth dist.	2635 Dec 09 06:00	18° \mathbb{J} 08'23	6.33016 AU	minimum elong	2641 Jun 04 05:44	14° \mathbb{I} 00'00	0°34'29
				max. Earth dist.	2641 Jun 06 13:22	14° \mathbb{I} 32'41	6.04282 AU
conjunction	2635 Dec 11 10:37	18° \mathbb{J} 37'52	0°30'28	morning rise	2641 Jun 18 00:15	17° \mathbb{I} 13'31	
minimum elong	2635 Dec 11 10:39	18° \mathbb{J} 37'53	0°30'29		2641 Aug 17 07:56	0° \mathbb{B}	
morning rise	2635 Dec 24 01:52	21° \mathbb{J} 27'36		retrograde	2641 Oct 25 06:22	6° \mathbb{B} 51'55	
	2636 Feb 02 10:54	0° \mathbb{B}		min. Earth dist.	2641 Dec 22 10:31	1° \mathbb{B} 58'50	4.10904 AU
retrograde	2636 Apr 25 08:22	9° \mathbb{B} 11'37		opposition	2641 Dec 23 20:39	1° \mathbb{B} 47'12	0°-24'-44
opposition	2636 Jun 25 05:43	4° \mathbb{B} 19'11	0°20'36		2642 Jan 06 07:26	30° \mathbb{R} \mathbb{I}	
min. Earth dist.	2636 Jun 26 17:27	4° \mathbb{B} 07'46	4.26210 AU	direct	2642 Feb 20 14:14	26° \mathbb{I} 48'10	
	2636 Aug 05 10:25	30° \mathbb{R} \mathbb{J}			2642 Apr 06 21:02	0° \mathbb{B}	
direct	2636 Aug 26 00:36	29° \mathbb{J} 20'57		asc. node	2642 Jun 19 17:35	13° \mathbb{B} 59'59	
	2636 Sep 15 14:07	0° \mathbb{B}		evening set	2642 Jun 27 01:54	15° \mathbb{B} 39'06	
desc. node	2636 Nov 27 02:11	10° \mathbb{B} 35'28					
evening set	2636 Dec 29 12:01	17° \mathbb{B} 44'00		conjunction	2642 Jul 10 19:42	18° \mathbb{B} 46'05	0°02'02
max. Earth dist.	2637 Jan 09 10:15	20° \mathbb{B} 15'16	6.18870 AU	minimum elong	2642 Jul 10 19:43	18° \mathbb{B} 46'06	0°02'01
				behind sun begin	2642 Jul 10 11:20	18° \mathbb{B} 41'22	
conjunction	2637 Jan 11 04:56	20° \mathbb{B} 39'58	0°-4'-12	behind sun end	2642 Jul 11 04:05	18° \mathbb{B} 50'50	
minimum elong	2637 Jan 11 04:55	20° \mathbb{B} 39'58	0°04'13	max. Earth dist.	2642 Jul 12 19:54	19° \mathbb{B} 13'28	6.18250 AU
behind sun begin	2637 Jan 10 21:03	20° \mathbb{B} 35'26		morning rise	2642 Jul 24 13:28	21° \mathbb{B} 52'48	
behind sun end	2637 Jan 11 12:47	20° \mathbb{B} 44'30			2642 Aug 31 08:10	0° \mathbb{Q}	
morning rise	2637 Jan 23 21:37	23° \mathbb{B} 36'10		retrograde	2642 Nov 27 06:44	10° \mathbb{Q} 21'09	
	2637 Feb 21 12:43	0° \mathbb{A}		min. Earth dist.	2643 Jan 25 00:57	5° \mathbb{Q} 26'58	4.25562 AU
retrograde	2637 May 30 14:50	12° \mathbb{A} 25'15		opposition	2643 Jan 26 00:47	5° \mathbb{Q} 18'58	0°29'26
opposition	2637 Jul 30 06:16	7° \mathbb{A} 30'47	0°-33'-19	direct	2643 Mar 27 00:28	0° \mathbb{Q} 17'32	
min. Earth dist.	2637 Jul 31 06:14	7° \mathbb{A} 23'02	4.11458 AU		2643 Jul 15 13:57	15° \mathbb{Q}	
direct	2637 Sep 28 17:09	2° \mathbb{A} 35'07		evening set	2643 Jul 31 18:07	18° \mathbb{Q} 29'44	
	2638 Jan 03 01:45	15° \mathbb{A}					
evening set	2638 Feb 01 01:28	21° \mathbb{A} 38'26		conjunction	2643 Aug 14 07:30	21° \mathbb{Q} 28'46	0°36'10
				minimum elong	2643 Aug 14 07:28	21° \mathbb{Q} 28'45	0°36'11
conjunction	2638 Feb 13 21:19	24° \mathbb{A} 41'38	0°-38'-59	max. Earth dist.	2643 Aug 15 06:18	21° \mathbb{Q} 41'20	6.32432 AU
minimum elong	2638 Feb 13 21:17	24° \mathbb{A} 41'37	0°39'00	morning rise	2643 Aug 27 19:28	24° \mathbb{Q} 26'48	
max. Earth dist.	2638 Feb 13 00:36	24° \mathbb{A} 29'17	6.04804 AU		2643 Sep 22 21:58	0° \mathbb{M}	
morning rise	2638 Feb 26 18:53	27° \mathbb{A} 45'57		retrograde	2643 Dec 28 09:38	11° \mathbb{M} 55'18	
	2638 Mar 08 06:33	0° \mathbb{X}		opposition	2644 Feb 26 10:44	6° \mathbb{M} 56'44	1°11'21
retrograde	2638 Jul 06 23:12	17° \mathbb{X} 43'21		min. Earth dist.	2644 Feb 26 04:39	6° \mathbb{M} 58'44	4.38179 AU
opposition	2638 Sep 05 06:07	12° \mathbb{X} 45'23	-1°-18'-50	direct	2644 Apr 27 18:31	1° \mathbb{M} 54'02	

evening set	2644 Sep 01 11:45	19° $\mathring{\text{M}}$ 37'02		2650 Feb 19 22:29	0° $\mathring{\text{H}}$	
				morning rise	2650 Mar 03 16:32	2° $\mathring{\text{H}}$ 48'25
conjunction	2644 Sep 14 18:17	22° $\mathring{\text{M}}$ 29'06	0°58'22	retrograde	2650 Jul 12 07:19	22° $\mathring{\text{H}}$ 53'12
minimum elong	2644 Sep 14 18:16	22° $\mathring{\text{M}}$ 29'05	0°58'22	opposition	2650 Sep 10 11:53	17° $\mathring{\text{H}}$ 54'41 -1°-23'-15
max. Earth dist.	2644 Sep 14 13:55	22° $\mathring{\text{M}}$ 26'44	6.42530 AU	min. Earth dist.	2650 Sep 10 11:41	17° $\mathring{\text{H}}$ 54'45 3.98316 AU
morning rise	2644 Sep 27 22:04	25° $\mathring{\text{M}}$ 19'45		direct	2650 Nov 08 08:36	13° $\mathring{\text{H}}$ 00'53
	2644 Oct 20 02:56	0° $\mathring{\text{A}}$			2651 Mar 02 16:17	0° $\mathring{\text{Y}}$
retrograde	2645 Jan 26 12:05	12° $\mathring{\text{A}}$ 11'57		evening set	2651 Mar 13 19:44	2° $\mathring{\text{Y}}$ 39'48
opposition	2645 Mar 27 22:20	7° $\mathring{\text{A}}$ 16'51	1°31'44			
min. Earth dist.	2645 Mar 28 10:01	7° $\mathring{\text{A}}$ 13'03	4.45216 AU	conjunction	2651 Mar 26 22:49	5° $\mathring{\text{Y}}$ 50'30 -1°-2'-8
direct	2645 May 29 05:10	2° $\mathring{\text{A}}$ 14'07		minimum elong	2651 Mar 26 22:48	5° $\mathring{\text{Y}}$ 50'30 1°02'09
evening set	2645 Oct 02 18:29	19° $\mathring{\text{A}}$ 43'14		max. Earth dist.	2651 Mar 27 15:58	6° $\mathring{\text{Y}}$ 00'54 5.95272 AU
max. Earth dist.	2645 Oct 14 11:12	22° $\mathring{\text{A}}$ 14'32	6.45934 AU	morning rise	2651 Apr 09 04:51	9° $\mathring{\text{Y}}$ 02'51
				retrograde	2651 Aug 19 14:46	29° $\mathring{\text{Y}}$ 44'20
conjunction	2645 Oct 15 17:55	22° $\mathring{\text{A}}$ 31'08	1°04'01	min. Earth dist.	2651 Oct 17 11:13	24° $\mathring{\text{Y}}$ 49'39 3.94644 AU
minimum elong	2645 Oct 15 17:55	22° $\mathring{\text{A}}$ 31'09	1°04'00	opposition	2651 Oct 18 10:00	24° $\mathring{\text{Y}}$ 41'59 -1°-34'-28
morning rise	2645 Oct 28 14:42	25° $\mathring{\text{A}}$ 17'46		direct	2651 Dec 15 08:37	19° $\mathring{\text{Y}}$ 47'51
	2645 Nov 19 23:49	0° $\mathring{\text{M}}$			2652 Mar 08 05:23	0° $\mathring{\text{B}}$
retrograde	2646 Feb 25 17:56	12° $\mathring{\text{M}}$ 01'43		evening set	2652 Apr 19 04:44	9° $\mathring{\text{B}}$ 33'07
opposition	2646 Apr 27 10:32	7° $\mathring{\text{M}}$ 08'59	1°27'33			
min. Earth dist.	2646 Apr 28 14:49	6° $\mathring{\text{M}}$ 59'55	4.44897 AU	conjunction	2652 May 02 15:50	12° $\mathring{\text{B}}$ 47'07 0°-56'-58
direct	2646 Jun 29 05:19	2° $\mathring{\text{M}}$ 07'08		minimum elong	2652 May 02 15:52	12° $\mathring{\text{B}}$ 47'08 0°56'59
	2646 Oct 11 09:04	15° $\mathring{\text{M}}$		max. Earth dist.	2652 May 04 13:14	13° $\mathring{\text{B}}$ 14'25 5.96245 AU
evening set	2646 Nov 02 08:18	19° $\mathring{\text{M}}$ 39'40			2652 May 11 21:11	15° $\mathring{\text{B}}$
max. Earth dist.	2646 Nov 13 03:42	22° $\mathring{\text{M}}$ 01'20	6.41852 AU	morning rise	2652 May 16 05:59	16° $\mathring{\text{B}}$ 02'35
					2652 Jul 20 07:13	0° $\mathring{\text{I}}$
conjunction	2646 Nov 15 02:56	22° $\mathring{\text{M}}$ 27'13	0°52'25	retrograde	2652 Sep 24 21:52	6° $\mathring{\text{I}}$ 29'35
minimum elong	2646 Nov 15 02:58	22° $\mathring{\text{M}}$ 27'14	0°52'26	min. Earth dist.	2652 Nov 22 01:51	1° $\mathring{\text{I}}$ 36'29 4.00202 AU
morning rise	2646 Nov 27 19:17	25° $\mathring{\text{M}}$ 13'49		opposition	2652 Nov 23 12:16	1° $\mathring{\text{I}}$ 24'44 -1°-7'-51
	2646 Dec 20 04:00	0° $\mathring{\text{J}}$			2652 Dec 04 00:50	30° $\mathring{\text{R}}$ $\mathring{\text{B}}$
retrograde	2647 Mar 28 23:03	12° $\mathring{\text{J}}$ 18'14		direct	2653 Jan 20 12:16	26° $\mathring{\text{B}}$ 28'16
opposition	2647 May 28 20:57	7° $\mathring{\text{J}}$ 26'17	0°59'43		2653 Mar 08 11:24	0° $\mathring{\text{I}}$
min. Earth dist.	2647 May 30 08:57	7° $\mathring{\text{J}}$ 14'49	4.37299 AU	evening set	2653 May 26 17:10	15° $\mathring{\text{I}}$ 52'05
direct	2647 Jul 30 09:04	2° $\mathring{\text{J}}$ 26'05				
evening set	2647 Dec 03 03:23	20° $\mathring{\text{J}}$ 19'15		conjunction	2653 Jun 09 10:20	19° $\mathring{\text{I}}$ 04'24 0°-29'-44
max. Earth dist.	2647 Dec 13 17:23	22° $\mathring{\text{J}}$ 41'37	6.31286 AU	minimum elong	2653 Jun 09 10:22	19° $\mathring{\text{I}}$ 04'25 0°29'45
				max. Earth dist.	2653 Jun 11 19:19	19° $\mathring{\text{I}}$ 37'44 6.05823 AU
conjunction	2647 Dec 15 19:52	23° $\mathring{\text{J}}$ 10'02	0°26'00	morning rise	2653 Jun 23 05:04	22° $\mathring{\text{I}}$ 17'18
minimum elong	2647 Dec 15 19:53	23° $\mathring{\text{J}}$ 10'03	0°25'59		2653 Jul 27 19:30	0° $\mathring{\text{S}}$
morning rise	2647 Dec 28 11:00	26° $\mathring{\text{J}}$ 00'27		retrograde	2653 Oct 30 01:27	11° $\mathring{\text{S}}$ 47'04
	2648 Jan 15 13:55	0° $\mathring{\text{Z}}$		min. Earth dist.	2653 Dec 27 05:34	6° $\mathring{\text{S}}$ 53'58 4.12664 AU
retrograde	2648 Apr 30 04:02	13° $\mathring{\text{Z}}$ 52'04		opposition	2653 Dec 28 14:54	6° $\mathring{\text{S}}$ 42'38 0°-16'-57
opposition	2648 Jun 30 00:37	8° $\mathring{\text{Z}}$ 59'25	0°13'14	direct	2654 Feb 25 11:42	1° $\mathring{\text{S}}$ 43'13
min. Earth dist.	2648 Jul 01 11:44	8° $\mathring{\text{Z}}$ 48'12	4.24329 AU	asc. node	2654 Apr 29 09:43	7° $\mathring{\text{S}}$ 32'22
direct	2648 Aug 30 16:08	4° $\mathring{\text{Z}}$ 01'31		evening set	2654 Jul 02 01:23	20° $\mathring{\text{S}}$ 29'28
desc. node	2648 Oct 06 15:15	6° $\mathring{\text{Z}}$ 05'04				
evening set	2649 Jan 03 01:59	22° $\mathring{\text{Z}}$ 29'17		conjunction	2654 Jul 15 18:46	23° $\mathring{\text{S}}$ 35'31 0°07'15
max. Earth dist.	2649 Jan 14 01:28	25° $\mathring{\text{Z}}$ 01'58	6.16974 AU	minimum elong	2654 Jul 15 18:46	23° $\mathring{\text{S}}$ 35'31 0°07'15
				behind sun begin	2654 Jul 15 11:08	23° $\mathring{\text{S}}$ 31'13
conjunction	2649 Jan 15 18:57	25° $\mathring{\text{Z}}$ 26'04	0°-9'-21	behind sun end	2654 Jul 16 02:24	23° $\mathring{\text{S}}$ 39'49
minimum elong	2649 Jan 15 18:57	25° $\mathring{\text{Z}}$ 26'04	0°09'22	max. Earth dist.	2654 Jul 17 15:06	24° $\mathring{\text{S}}$ 00'35 6.20076 AU
behind sun begin	2649 Jan 15 12:12	25° $\mathring{\text{Z}}$ 22'10		morning rise	2654 Jul 29 12:12	26° $\mathring{\text{S}}$ 41'13
behind sun end	2649 Jan 16 01:41	25° $\mathring{\text{Z}}$ 29'58			2654 Aug 13 11:26	0° $\mathring{\text{Q}}$
morning rise	2649 Jan 28 12:15	28° $\mathring{\text{Z}}$ 23'17			2654 Nov 28 08:39	15° $\mathring{\text{Q}}$
	2649 Feb 04 12:19	0° $\mathring{\text{R}}$		retrograde	2654 Dec 01 18:14	15° $\mathring{\text{Q}}$ 01'09
	2649 Apr 26 06:36	15° $\mathring{\text{R}}$			2654 Dec 05 03:39	15° $\mathring{\text{R}}$ $\mathring{\text{Q}}$
retrograde	2649 Jun 04 16:18	17° $\mathring{\text{R}}$ 21'25		opposition	2655 Jan 30 13:08	9° $\mathring{\text{Q}}$ 59'25 0°36'23
	2649 Jul 14 11:14	15° $\mathring{\text{R}}$ $\mathring{\text{R}}$		min. Earth dist.	2655 Jan 29 15:30	10° $\mathring{\text{Q}}$ 06'41 4.27304 AU
opposition	2649 Aug 04 07:37	12° $\mathring{\text{R}}$ 26'26	0°-40'-40	direct	2655 Mar 31 17:09	4° $\mathring{\text{Q}}$ 57'45
min. Earth dist.	2649 Aug 05 04:21	12° $\mathring{\text{R}}$ 19'43	4.09684 AU		2655 Jun 27 15:37	15° $\mathring{\text{Q}}$
direct	2649 Oct 03 13:10	7° $\mathring{\text{R}}$ 31'00		evening set	2655 Aug 05 11:29	23° $\mathring{\text{Q}}$ 05'58
	2649 Dec 14 12:07	15° $\mathring{\text{R}}$				
evening set	2650 Feb 05 21:41	26° $\mathring{\text{R}}$ 38'59		conjunction	2655 Aug 19 00:11	26° $\mathring{\text{Q}}$ 04'02 0°40'12
				minimum elong	2655 Aug 19 00:09	26° $\mathring{\text{Q}}$ 04'00 0°40'11
conjunction	2650 Feb 18 18:19	29° $\mathring{\text{R}}$ 43'09	0°-43'-7	max. Earth dist.	2655 Aug 19 20:56	26° $\mathring{\text{Q}}$ 15'26 6.33987 AU
minimum elong	2650 Feb 18 18:17	29° $\mathring{\text{R}}$ 43'07	0°43'08	morning rise	2655 Sep 01 10:56	29° $\mathring{\text{Q}}$ 00'58
max. Earth dist.	2650 Feb 18 03:03	29° $\mathring{\text{R}}$ 34'00	6.03311 AU		2655 Sep 05 23:36	0° $\mathring{\text{M}}$

retrograde	2656 Jan 01 17:07	16° \mathbb{M} 23'25			2661 Nov 18 21:34	15° \approx	
opposition	2656 Mar 01 19:20	11° \mathbb{M} 25'27	1°15'40		2662 Feb 04 06:59	0° \mathbb{H}	
min. Earth dist.	2656 Mar 01 14:50	11° \mathbb{M} 26'56	4.39468 AU	evening set	2662 Feb 10 13:53	1° \mathbb{H} 29'26	
direct	2656 May 02 06:01	6° \mathbb{M} 22'49					
evening set	2656 Sep 06 00:00	24° \mathbb{M} 03'06		conjunction	2662 Feb 23 11:08	4° \mathbb{H} 34'31	0°-46'-46
				minimum elong	2662 Feb 23 11:06	4° \mathbb{H} 34'30	0°46'47
conjunction	2656 Sep 19 05:19	26° \mathbb{M} 54'20	1°00'13	max. Earth dist.	2662 Feb 22 21:49	4° \mathbb{H} 26'32	6.01874 AU
minimum elong	2656 Sep 19 05:18	26° \mathbb{M} 54'19	1°00'13	morning rise	2662 Mar 08 10:22	7° \mathbb{H} 40'52	
max. Earth dist.	2656 Sep 18 20:26	26° \mathbb{M} 49'32	6.43479 AU	retrograde	2662 Jul 17 09:21	27° \mathbb{H} 53'04	
morning rise	2656 Oct 02 08:10	29° \mathbb{M} 44'13		opposition	2662 Sep 15 13:02	22° \mathbb{H} 54'05	-1°-26'-53
	2656 Oct 03 13:34	0° \mathbb{L}		min. Earth dist.	2662 Sep 15 09:33	22° \mathbb{H} 55'15	3.97171 AU
retrograde	2657 Jan 30 19:19	16° \mathbb{L} 33'20		direct	2662 Nov 13 04:53	18° \mathbb{H} 00'21	
opposition	2657 Apr 01 05:37	11° \mathbb{L} 38'40	1°32'38		2663 Feb 13 14:40	0° \mathbb{Y}	
min. Earth dist.	2657 Apr 01 20:00	11° \mathbb{L} 34'01	4.45809 AU	evening set	2663 Mar 18 18:23	7° \mathbb{Y} 42'45	
direct	2657 Jun 02 15:41	6° \mathbb{L} 36'04					
evening set	2657 Oct 07 02:37	24° \mathbb{L} 03'52		conjunction	2663 Mar 31 22:33	10° \mathbb{Y} 54'18	-1°-2'-55
max. Earth dist.	2657 Oct 18 17:23	26° \mathbb{L} 34'05	6.46144 AU	minimum elong	2663 Mar 31 22:33	10° \mathbb{Y} 54'18	1°02'56
				max. Earth dist.	2663 Apr 01 19:02	11° \mathbb{Y} 06'45	5.94527 AU
conjunction	2657 Oct 20 01:21	26° \mathbb{L} 51'23	1°03'24	morning rise	2663 Apr 14 05:43	14° \mathbb{Y} 07'31	
minimum elong	2657 Oct 20 01:21	26° \mathbb{L} 51'23	1°03'23		2663 Jun 28 19:20	0° \mathbb{Z}	
morning rise	2657 Nov 01 21:10	29° \mathbb{L} 37'36		retrograde	2663 Aug 24 18:10	4° \mathbb{Z} 52'04	
	2657 Nov 03 14:53	0° \mathbb{M}		min. Earth dist.	2663 Oct 22 11:53	29° \mathbb{Y} 57'25	3.94386 AU
	2658 Jan 31 04:31	15° \mathbb{M}			2663 Oct 22 04:15	30° \mathbb{R} \mathbb{Y}	
retrograde	2658 Mar 01 23:39	16° \mathbb{M} 21'30		opposition	2663 Oct 23 12:01	29° \mathbb{Y} 49'16	-1°-32'-59
	2658 Mar 31 21:10	15° \mathbb{R} \mathbb{M}		direct	2663 Dec 20 09:35	24° \mathbb{Y} 54'54	
opposition	2658 May 01 18:36	11° \mathbb{M} 28'58	1°24'59		2664 Feb 15 02:35	0° \mathbb{Z}	
min. Earth dist.	2658 May 02 23:06	11° \mathbb{M} 19'51	4.44725 AU	evening set	2664 Apr 24 07:38	14° \mathbb{Z} 41'01	
direct	2658 Jul 03 12:35	6° \mathbb{M} 27'22			2664 Apr 25 15:24	15° \mathbb{Z}	
	2658 Sep 23 11:10	15° \mathbb{M}					
evening set	2658 Nov 06 14:32	24° \mathbb{M} 00'04		conjunction	2664 May 07 20:01	17° \mathbb{Z} 55'28	0°-54'-21
max. Earth dist.	2658 Nov 17 08:47	26° \mathbb{M} 21'22	6.41313 AU	minimum elong	2664 May 07 20:04	17° \mathbb{Z} 55'29	0°54'22
				max. Earth dist.	2664 May 09 21:06	18° \mathbb{Z} 24'55	5.96518 AU
conjunction	2658 Nov 19 08:32	26° \mathbb{M} 47'36	0°49'33	morning rise	2664 May 21 11:08	21° \mathbb{Z} 11'15	
minimum elong	2658 Nov 19 08:33	26° \mathbb{M} 47'37	0°49'33		2664 Jun 29 05:25	0° \mathbb{I}	
morning rise	2658 Dec 02 00:26	29° \mathbb{M} 34'15		retrograde	2664 Sep 29 22:53	11° \mathbb{I} 34'56	
	2658 Dec 03 23:40	0° \mathbb{J}		min. Earth dist.	2664 Nov 27 00:10	6° \mathbb{I} 41'58	4.00977 AU
retrograde	2659 Apr 02 10:20	16° \mathbb{J} 41'45		opposition	2664 Nov 28 11:11	6° \mathbb{I} 30'02	-1°-1'-51
opposition	2659 Jun 02 08:10	11° \mathbb{J} 49'51	0°54'14	direct	2665 Jan 25 12:07	1° \mathbb{I} 33'12	
min. Earth dist.	2659 Jun 03 21:26	11° \mathbb{J} 37'59	4.36393 AU	evening set	2665 May 31 20:15	20° \mathbb{I} 54'50	
direct	2659 Aug 03 19:54	6° \mathbb{J} 49'57					
evening set	2659 Dec 07 10:17	24° \mathbb{J} 44'59		conjunction	2665 Jun 14 13:48	24° \mathbb{I} 06'49	0°-24'-53
max. Earth dist.	2659 Dec 17 23:19	27° \mathbb{J} 07'16	6.30081 AU	minimum elong	2665 Jun 14 13:50	24° \mathbb{I} 06'50	0°24'53
				max. Earth dist.	2665 Jun 16 21:34	24° \mathbb{I} 39'20	6.07021 AU
conjunction	2659 Dec 20 02:32	27° \mathbb{J} 36'10	0°21'32	morning rise	2665 Jun 28 09:03	27° \mathbb{I} 19'20	
minimum elong	2659 Dec 20 02:33	27° \mathbb{J} 36'11	0°21'31		2665 Jul 10 01:43	0° \mathbb{Q}	
	2659 Dec 30 17:32	0° \mathbb{Z}		retrograde	2665 Nov 03 18:13	16° \mathbb{Q} 41'43	
morning rise	2660 Jan 01 17:44	0° \mathbb{Z} 27'05		min. Earth dist.	2665 Dec 31 23:30	11° \mathbb{Q} 48'39	4.14153 AU
retrograde	2660 May 04 18:44	18° \mathbb{Z} 24'51		opposition	2666 Jan 02 08:31	11° \mathbb{Q} 37'26	0°-9'-13
opposition	2660 Jul 04 16:10	13° \mathbb{Z} 31'56	0°06'02	direct	2666 Mar 02 08:22	6° \mathbb{Q} 37'36	
min. Earth dist.	2660 Jul 06 01:36	13° \mathbb{Z} 21'14	4.22884 AU	asc. node	2666 Mar 09 12:33	6° \mathbb{Q} 42'46	
desc. node	2660 Aug 18 12:23	9° \mathbb{Z} 00'17		evening set	2666 Jul 07 00:27	25° \mathbb{Q} 19'55	
direct	2660 Sep 04 03:24	8° \mathbb{Z} 34'20					
evening set	2661 Jan 07 12:24	27° \mathbb{Z} 05'44		conjunction	2666 Jul 20 17:38	28° \mathbb{Q} 25'06	0°12'21
max. Earth dist.	2661 Jan 18 15:14	29° \mathbb{Z} 40'51	6.15415 AU	minimum elong	2666 Jul 20 17:37	28° \mathbb{Q} 25'06	0°12'22
				behind sun begin	2666 Jul 20 12:17	28° \mathbb{Q} 22'06	
conjunction	2661 Jan 20 05:41	0° \approx 03'17	0°-14'-14	behind sun end	2666 Jul 20 22:58	28° \mathbb{Q} 28'05	
minimum elong	2661 Jan 20 05:40	0° \approx 03'16	0°14'14	max. Earth dist.	2666 Jul 22 12:41	28° \mathbb{Q} 49'22	6.21749 AU
behind sun begin	2661 Jan 20 01:40	0° \approx 00'57			2666 Jul 27 18:08	0° \mathbb{Q}	
behind sun end	2661 Jan 20 09:40	0° \approx 05'36		morning rise	2666 Aug 03 10:18	1° \mathbb{Q} 29'45	
	2661 Jan 20 00:02	0° \approx			2666 Oct 10 21:48	15° \mathbb{Q}	
morning rise	2661 Feb 01 23:15	3° \approx 01'18		retrograde	2666 Dec 06 06:23	19° \mathbb{Q} 41'32	
	2661 Mar 30 08:46	15° \approx			2667 Feb 01 14:16	15° \mathbb{R} \mathbb{Q}	
retrograde	2661 Jun 09 15:17	22° \approx 07'35		min. Earth dist.	2667 Feb 03 05:33	14° \mathbb{Q} 46'51	4.28996 AU
opposition	2661 Aug 09 04:44	17° \approx 12'15	0°-47'-27	opposition	2667 Feb 04 01:22	14° \mathbb{Q} 40'13	0°43'03
min. Earth dist.	2661 Aug 10 00:37	17° \approx 05'47	4.08118 AU	direct	2667 Apr 05 09:44	9° \mathbb{Q} 38'19	
	2661 Aug 26 19:08	15° \mathbb{R} \approx			2667 Jun 06 03:03	15° \mathbb{Q}	
direct	2661 Oct 08 07:00	12° \approx 17'05		evening set	2667 Aug 10 04:46	27° \mathbb{Q} 42'15	

	2667 Aug 20 16:47	0°♎		opposition	2673 Aug 14 08:00	22°≈12'44	0°-54'-21
				min. Earth dist.	2673 Aug 15 00:20	22°≈07'26	4.06103 AU
conjunction	2667 Aug 23 16:26	0°♎39'16	0°43'56	direct	2673 Oct 13 04:07	17°≈17'53	
minimum elong	2667 Aug 23 16:23	0°♎39'14	0°43'55		2674 Jan 18 00:51	0°♋	
max. Earth dist.	2667 Aug 24 09:05	0°♎48'23	6.35541 AU	evening set	2674 Feb 15 13:06	6°♋36'14	
morning rise	2667 Sep 06 02:14	3°♎35'07					
retrograde	2668 Jan 05 23:50	20°♎51'14		conjunction	2674 Feb 28 11:10	9°♋42'25	0°-50'-19
opposition	2668 Mar 06 03:32	15°♎53'36	1°19'30	minimum elong	2674 Feb 28 11:08	9°♋42'24	0°50'19
min. Earth dist.	2668 Mar 06 01:23	15°♎54'19	4.40767 AU	max. Earth dist.	2674 Feb 28 02:31	9°♋37'12	6.00202 AU
direct	2668 May 06 18:11	10°♎50'48		morning rise	2674 Mar 13 11:22	12°♋49'57	
evening set	2668 Sep 10 11:17	28°♎27'57			2674 Jun 07 06:27	0°♑	
	2668 Sep 17 14:29	0°♎		retrograde	2674 Jul 22 20:13	3°♑10'14	
					2674 Sep 06 20:08	30°♋	
conjunction	2668 Sep 23 15:43	1°♎18'25	1°01'42	opposition	2674 Sep 20 21:17	28°♋10'43	-1°-30'-4
minimum elong	2668 Sep 23 15:42	1°♎18'25	1°01'42	min. Earth dist.	2674 Sep 20 15:11	28°♋12'45	3.96035 AU
max. Earth dist.	2668 Sep 23 04:45	1°♎12'30	6.44396 AU	direct	2674 Nov 18 10:02	23°♋17'03	
morning rise	2668 Oct 06 17:17	4°♎07'29			2675 Jan 23 15:48	0°♑	
retrograde	2669 Feb 04 00:00	20°♎53'33		evening set	2675 Mar 24 00:23	13°♑02'40	
opposition	2669 Apr 05 12:27	15°♎59'12	1°33'00				
min. Earth dist.	2669 Apr 06 04:33	15°♎54'00	4.46267 AU	conjunction	2675 Apr 06 05:51	16°♑15'02	-1°-3'-15
direct	2669 Jun 07 00:13	10°♎56'39		minimum elong	2675 Apr 06 05:51	16°♑15'02	1°03'15
evening set	2669 Oct 11 10:09	28°♎23'23		max. Earth dist.	2675 Apr 07 08:11	16°♑31'01	5.94054 AU
	2669 Oct 18 21:30	0°♌		morning rise	2675 Apr 19 14:13	19°♑29'02	
max. Earth dist.	2669 Oct 22 19:57	0°♌51'06	6.46071 AU		2675 Jun 04 22:24	0°♌	
				retrograde	2675 Aug 30 03:57	10°♌14'33	
conjunction	2669 Oct 24 07:53	1°♌10'34	1°02'25	opposition	2675 Oct 28 19:58	5°♌11'25	-1°-30'-38
minimum elong	2669 Oct 24 07:54	1°♌10'34	1°02'25	min. Earth dist.	2675 Oct 27 17:19	5°♌20'26	3.94678 AU
morning rise	2669 Nov 06 03:06	3°♌56'32		direct	2675 Dec 25 15:49	0°♌16'54	
	2670 Jan 01 16:35	15°♌			2676 Apr 08 04:51	15°♌	
retrograde	2670 Mar 06 08:18	20°♌41'26		evening set	2676 Apr 29 16:15	20°♌01'25	
opposition	2670 May 06 03:07	15°♌49'02	1°21'55				
min. Earth dist.	2670 May 07 10:16	15°♌39'05	4.44112 AU	conjunction	2676 May 13 05:30	23°♌15'49	0°-51'-11
	2670 May 12 13:10	15°♌		minimum elong	2676 May 13 05:32	23°♌15'51	0°51'12
direct	2670 Jul 07 22:18	10°♌47'33		max. Earth dist.	2676 May 15 08:15	23°♌46'11	5.97541 AU
	2670 Sep 01 06:35	15°♌		morning rise	2676 May 26 21:41	26°♌31'34	
evening set	2670 Nov 10 21:15	28°♌21'52			2676 Jun 10 17:29	0°♐	
	2670 Nov 18 08:23	0°♐		retrograde	2676 Oct 05 00:11	16°♐48'20	
max. Earth dist.	2670 Nov 21 14:03	0°♐42'44	6.40190 AU	min. Earth dist.	2676 Dec 02 00:48	11°♐55'46	4.02620 AU
				opposition	2676 Dec 03 13:15	11°♐43'20	0°-55'-10
conjunction	2670 Nov 23 14:58	1°♐09'40	0°46'20	direct	2677 Jan 30 16:16	6°♐46'05	
minimum elong	2670 Nov 23 14:59	1°♐09'41	0°46'20	evening set	2677 Jun 06 01:37	26°♐02'12	
morning rise	2670 Dec 06 06:29	3°♐56'38					
retrograde	2671 Apr 06 21:58	21°♐09'15		conjunction	2677 Jun 19 19:33	29°♐13'21	0°-19'-45
opposition	2671 Jun 06 20:59	16°♐17'15	0°48'17	minimum elong	2677 Jun 19 19:34	29°♐13'22	0°19'46
min. Earth dist.	2671 Jun 08 09:47	16°♐05'32	4.34822 AU	max. Earth dist.	2677 Jun 22 03:33	29°♐45'51	6.09151 AU
direct	2671 Aug 08 05:19	11°♐17'36			2677 Jun 23 03:56	0°♑	
evening set	2671 Dec 11 19:47	29°♐16'52		morning rise	2677 Jul 03 14:37	2°♑24'48	
	2671 Dec 15 00:27	0°♑		retrograde	2677 Nov 08 12:01	21°♑36'16	
max. Earth dist.	2671 Dec 22 09:44	1°♑40'17	6.28178 AU	min. Earth dist.	2678 Jan 05 18:59	16°♑42'54	4.16522 AU
				opposition	2678 Jan 07 02:15	16°♑32'18	0°-1'-24
conjunction	2671 Dec 24 11:58	2°♑08'47	0°16'46	asc. node	2678 Jan 17 05:37	15°♑10'50	
minimum elong	2671 Dec 24 11:59	2°♑08'47	0°16'46	direct	2678 Mar 07 07:06	11°♑32'08	
morning rise	2672 Jan 06 03:19	5°♑00'32		evening set	2678 Jul 11 22:42	0°♒07'36	
retrograde	2672 May 09 16:33	23°♑07'02			2678 Jul 11 09:03	0°♒	
desc. node	2672 Jun 28 04:47	19°♑39'27					
opposition	2672 Jul 09 12:12	18°♑13'53	0°-1'-31	conjunction	2678 Jul 25 15:16	3°♒11'29	0°17'21
min. Earth dist.	2672 Jul 10 21:34	18°♑03'11	4.20756 AU	minimum elong	2678 Jul 25 15:14	3°♒11'28	0°17'21
direct	2672 Sep 08 20:10	13°♑16'36		max. Earth dist.	2678 Jul 27 07:23	3°♒33'58	6.24150 AU
	2673 Jan 03 22:13	0°≈		morning rise	2678 Aug 08 07:10	6°♒14'44	
evening set	2673 Jan 12 03:39	1°≈53'58			2678 Sep 18 21:13	15°♒	
max. Earth dist.	2673 Jan 23 08:29	4°≈31'00	6.13243 AU	retrograde	2678 Dec 10 13:56	24°♒16'22	
				opposition	2679 Feb 08 11:30	19°♒15'31	0°49'16
conjunction	2673 Jan 24 21:19	4°≈52'35	0°-19'-17	min. Earth dist.	2679 Feb 07 17:22	19°♒21'35	4.31228 AU
minimum elong	2673 Jan 24 21:18	4°≈52'34	0°19'18		2679 Mar 18 21:47	15°♒	
morning rise	2673 Feb 06 15:35	7°≈51'49		direct	2679 Apr 10 00:01	14°♒13'25	
	2673 Mar 10 08:24	15°≈			2679 May 02 10:12	15°♒	
retrograde	2673 Jun 14 18:46	27°≈08'31			2679 Aug 04 14:08	0°♎	

evening set	2679 Aug 14 18:54	2°♏11'41		retrograde	2685 Jun 20 03:56	2°♏17'52	
					2685 Jul 29 04:28	30°♏	
conjunction	2679 Aug 28 05:34	5°♏07'30	0°47'18	opposition	2685 Aug 19 14:25	27°♏21'35	-1°00'-57
minimum elong	2679 Aug 28 05:32	5°♏07'29	0°47'18	min. Earth dist.	2685 Aug 20 03:56	27°♏17'10	4.04021 AU
max. Earth dist.	2679 Aug 28 18:12	5°♏14'24	6.37431 AU	direct	2685 Oct 18 06:16	22°♏26'58	
morning rise	2679 Sep 10 14:07	8°♏02'05			2685 Dec 28 21:01	0°♏	
retrograde	2680 Jan 10 04:19	25°♏11'35		evening set	2686 Feb 20 15:19	11°♏51'13	
opposition	2680 Mar 10 09:08	20°♏14'29	1°22'44				
min. Earth dist.	2680 Mar 10 10:13	20°♏14'08	4.42182 AU	conjunction	2686 Mar 05 14:25	14°♏58'33	0°-53'-30
direct	2680 May 11 04:11	15°♏11'41		minimum elong	2686 Mar 05 14:23	14°♏58'32	0°53'31
	2680 Sep 01 18:19	0°♏		max. Earth dist.	2686 Mar 05 11:42	14°♏56'55	5.98660 AU
evening set	2680 Sep 14 19:20	2°♏45'41		morning rise	2686 Mar 18 15:41	18°♏07'15	
					2686 May 11 03:15	0°♏	
conjunction	2680 Sep 27 22:40	5°♏35'25	1°02'48	retrograde	2686 Jul 28 08:27	8°♏34'23	
minimum elong	2680 Sep 27 22:39	5°♏35'24	1°02'47	opposition	2686 Sep 26 07:59	3°♏34'16	-1°-32'-30
max. Earth dist.	2680 Sep 27 06:20	5°♏26'36	6.45210 AU	min. Earth dist.	2686 Sep 25 22:02	3°♏37'35	3.95240 AU
morning rise	2680 Oct 10 23:19	8°♏23'47			2686 Oct 26 11:48	30°♏	
retrograde	2681 Feb 08 03:34	25°♏07'44		direct	2686 Nov 23 16:22	28°♏40'39	
opposition	2681 Apr 09 16:53	20°♏13'42	1°32'52		2686 Dec 21 17:51	0°♏	
min. Earth dist.	2681 Apr 10 11:57	20°♏07'33	4.46451 AU	evening set	2687 Mar 29 08:43	18°♏27'43	
direct	2681 Jun 11 06:42	15°♏11'12					
	2681 Oct 03 05:47	0°♏		conjunction	2687 Apr 11 15:08	21°♏40'34	-1°-3'-1
evening set	2681 Oct 15 15:08	2°♏38'02		minimum elong	2687 Apr 11 15:08	21°♏40'34	1°03'02
max. Earth dist.	2681 Oct 26 22:35	5°♏04'41	6.45604 AU	max. Earth dist.	2687 Apr 12 21:11	21°♏58'47	5.94047 AU
				morning rise	2687 Apr 25 00:49	24°♏55'06	
conjunction	2681 Oct 28 12:20	5°♏25'09	1°01'07		2687 May 16 13:41	0°♏	
minimum elong	2681 Oct 28 12:21	5°♏25'10	1°01'07		2687 Aug 15 13:56	15°♏	
morning rise	2681 Nov 10 06:43	8°♏11'03		retrograde	2687 Sep 04 11:38	15°♏38'59	
	2681 Dec 13 03:50	15°♏			2687 Sep 24 07:53	15°♏	
retrograde	2682 Mar 10 14:11	24°♏58'31		min. Earth dist.	2687 Nov 01 22:29	10°♏45'23	3.95463 AU
opposition	2682 May 10 10:13	20°♏06'17	1°18'30	opposition	2687 Nov 03 04:07	10°♏35'20	-1°-27'-27
min. Earth dist.	2682 May 11 18:36	19°♏55'57	4.43022 AU	direct	2687 Dec 31 00:01	5°♏40'26	
direct	2682 Jul 12 04:19	15°♏05'02			2688 Mar 19 19:15	15°♏	
	2682 Nov 02 14:39	0°♏		evening set	2688 May 05 01:03	25°♏21'21	
evening set	2682 Nov 15 03:01	2°♏42'37					
max. Earth dist.	2682 Nov 25 17:02	5°♏02'35	6.38545 AU	conjunction	2688 May 18 15:17	28°♏35'30	0°-47'-35
				minimum elong	2688 May 18 15:20	28°♏35'31	0°47'36
conjunction	2682 Nov 27 20:16	5°♏30'55	0°42'55	max. Earth dist.	2688 May 20 21:07	29°♏07'35	5.99023 AU
minimum elong	2682 Nov 27 20:17	5°♏30'56	0°42'54		2688 May 24 13:09	0°♏	
morning rise	2682 Dec 10 11:46	8°♏18'31		morning rise	2688 Jun 01 08:01	1°♏50'47	
retrograde	2683 Apr 11 12:54	25°♏38'17		retrograde	2688 Oct 10 01:23	21°♏58'40	
opposition	2683 Jun 11 10:35	20°♏46'13	0°42'06	min. Earth dist.	2688 Dec 07 02:19	17°♏05'46	4.04596 AU
min. Earth dist.	2683 Jun 13 00:32	20°♏34'07	4.32704 AU	opposition	2688 Dec 08 14:00	16°♏53'36	0°-48'-5
direct	2683 Aug 12 16:50	15°♏46'50		direct	2689 Feb 04 20:48	11°♏55'54	
	2683 Nov 28 19:44	0°♏			2689 Jun 06 11:14	0°♏	
evening set	2683 Dec 16 05:58	3°♏52'07		evening set	2689 Jun 11 05:40	1°♏05'31	
max. Earth dist.	2683 Dec 26 20:56	6°♏16'54	6.25765 AU				
				conjunction	2689 Jun 24 23:41	4°♏15'40	0°-14'-30
conjunction	2683 Dec 28 22:22	6°♏45'04	0°11'54	minimum elong	2689 Jun 24 23:42	4°♏15'40	0°14'31
minimum elong	2683 Dec 28 22:23	6°♏45'05	0°11'55	behind sun begin	2689 Jun 24 20:19	4°♏13'44	
behind sun begin	2683 Dec 28 16:47	6°♏41'55		behind sun end	2689 Jun 25 03:05	4°♏17'37	
behind sun end	2683 Dec 29 03:59	6°♏48'15		max. Earth dist.	2689 Jun 27 06:46	4°♏47'26	6.11428 AU
morning rise	2684 Jan 10 13:58	9°♏37'56		morning rise	2689 Jul 08 18:40	7°♏26'00	
desc. node	2684 May 08 00:03	27°♏50'55		retrograde	2689 Nov 13 01:58	26°♏26'19	
retrograde	2684 May 14 14:25	27°♏55'03		asc. node	2689 Nov 26 15:40	26°♏07'59	
opposition	2684 Jul 14 10:06	23°♏01'37	0°-9'-10	min. Earth dist.	2690 Jan 10 11:44	21°♏33'02	4.18876 AU
min. Earth dist.	2684 Jul 15 16:56	22°♏51'44	4.18229 AU	opposition	2690 Jan 11 18:18	21°♏22'41	0°06'21
direct	2684 Sep 13 12:16	18°♏04'44		direct	2690 Mar 12 02:39	16°♏22'11	
	2684 Dec 17 14:54	0°♏			2690 Jun 24 11:56	0°♏	
evening set	2685 Jan 16 21:36	6°♏49'27		evening set	2690 Jul 16 19:24	4°♏51'12	
max. Earth dist.	2685 Jan 28 06:28	9°♏29'43	6.10829 AU				
				conjunction	2690 Jul 30 11:13	7°♏53'48	0°22'13
conjunction	2685 Jan 29 15:42	9°♏49'18	0°-24'-16	minimum elong	2690 Jul 30 11:12	7°♏53'47	0°22'12
minimum elong	2685 Jan 29 15:40	9°♏49'17	0°24'17	max. Earth dist.	2690 Jul 31 22:47	8°♏13'39	6.26396 AU
morning rise	2685 Feb 11 10:42	12°♏49'53		morning rise	2690 Aug 13 02:14	10°♏55'41	
	2685 Feb 20 18:25	15°♏			2690 Aug 31 19:42	15°♏	
	2685 May 12 09:26	0°♏		retrograde	2690 Dec 14 23:05	28°♏48'13	

opposition	2691 Feb 12 20:58	23° Ω 47'55	0°55'12	evening set	2697 Jan 21 16:40	11° \approx 48'02	
min. Earth dist.	2691 Feb 12 06:25	23° Ω 52'46	4.33192 AU	max. Earth dist.	2697 Feb 02 06:56	14° \approx 32'08	6.08887 AU
direct	2691 Apr 14 15:23	18° Ω 45'39					
	2691 Jul 18 11:49	0° \cap		conjunction	2697 Feb 03 11:24	14° \approx 48'57	0°-29'-9
evening set	2691 Aug 19 08:31	6° \cap 39'17		minimum elong	2697 Feb 03 11:22	14° \approx 48'56	0°29'09
					2697 Feb 04 06:04	15° \approx	
conjunction	2691 Sep 01 18:13	9° \cap 34'04	0°50'26	morning rise	2697 Feb 16 07:00	17° \approx 50'40	
minimum elong	2691 Sep 01 18:11	9° \cap 34'03	0°50'27		2697 Apr 13 15:20	0° \times	
max. Earth dist.	2691 Sep 02 02:46	9° \cap 38'43	6.38962 AU	retrograde	2697 Jun 25 12:01	7° \times 28'00	
morning rise	2691 Sep 15 01:36	12° \cap 27'34		opposition	2697 Aug 24 21:01	2° \times 31'17	-1°-7'-7
retrograde	2692 Jan 14 07:57	29° \cap 31'46		min. Earth dist.	2697 Aug 25 06:55	2° \times 28'03	4.02527 AU
opposition	2692 Mar 14 14:55	24° \cap 35'09	1°25'37		2697 Sep 14 02:55	30° \mathbb{R} \approx	
min. Earth dist.	2692 Mar 14 18:15	24° \cap 34'04	4.43218 AU	direct	2697 Oct 23 07:13	27° \approx 37'01	
direct	2692 May 15 12:36	19° \cap 32'19			2697 Nov 30 20:30	0° \times	
	2692 Aug 15 16:57	0° $\underline{\Delta}$		evening set	2698 Feb 25 17:28	17° \times 05'04	
evening set	2692 Sep 19 03:56	7° $\underline{\Delta}$ 04'26					
max. Earth dist.	2692 Oct 01 10:45	9° $\underline{\Delta}$ 43'02	6.45674 AU	conjunction	2698 Mar 10 17:14	20° \times 13'09	0°-56'-15
				minimum elong	2698 Mar 10 17:12	20° \times 13'08	0°56'16
conjunction	2692 Oct 02 06:19	9° $\underline{\Delta}$ 53'36	1°03'35	max. Earth dist.	2698 Mar 10 18:35	20° \times 13'58	5.97740 AU
minimum elong	2692 Oct 02 06:18	9° $\underline{\Delta}$ 53'36	1°03'35	morning rise	2698 Mar 23 19:38	23° \times 22'45	
morning rise	2692 Oct 15 05:55	12° $\underline{\Delta}$ 41'24			2698 Apr 21 04:49	0° γ	
retrograde	2693 Feb 12 08:54	29° $\underline{\Delta}$ 24'24		retrograde	2698 Aug 02 16:19	13° γ 54'03	
opposition	2693 Apr 13 23:00	24° $\underline{\Delta}$ 30'46	1°32'17	opposition	2698 Oct 01 16:10	8° γ 53'22	-1°-34'-6
min. Earth dist.	2693 Apr 14 20:46	24° $\underline{\Delta}$ 23'46	4.46329 AU	min. Earth dist.	2698 Oct 01 02:19	8° γ 57'59	3.95018 AU
direct	2693 Jun 15 14:59	19° $\underline{\Delta}$ 28'27		direct	2698 Nov 28 21:58	3° γ 59'41	
	2693 Sep 16 07:38	0° \mathbb{M}		evening set	2699 Apr 03 14:29	23° γ 46'19	
evening set	2693 Oct 19 21:40	6° \mathbb{M} 56'09					
max. Earth dist.	2693 Oct 31 00:21	9° \mathbb{M} 20'36	6.44886 AU	conjunction	2699 Apr 16 22:07	26° γ 59'28	-1°-2'-17
				minimum elong	2699 Apr 16 22:08	26° γ 59'29	1°02'18
conjunction	2693 Nov 01 18:05	9° \mathbb{M} 43'16	0°59'29	max. Earth dist.	2699 Apr 18 09:39	27° γ 20'59	5.94540 AU
minimum elong	2693 Nov 01 18:06	9° \mathbb{M} 43'17	0°59'29		2699 Apr 29 09:02	0° \mathcal{B}	
morning rise	2693 Nov 14 12:03	12° \mathbb{M} 29'16		morning rise	2699 Apr 30 08:42	0° \mathcal{B} 14'12	
	2693 Nov 26 05:37	15° \mathbb{M}			2699 Jul 08 10:41	15° \mathcal{B}	
retrograde	2694 Mar 14 23:54	29° \mathbb{M} 20'12		retrograde	2699 Sep 09 17:30	20° \mathcal{B} 54'29	
opposition	2694 May 14 19:57	24° \mathbb{M} 28'06	1°14'34	min. Earth dist.	2699 Nov 07 01:57	16° \mathcal{B} 00'48	3.96609 AU
min. Earth dist.	2694 May 16 05:54	24° \mathbb{M} 17'16	4.41760 AU	opposition	2699 Nov 08 08:18	15° \mathcal{B} 50'30	-1°-23'-37
direct	2694 Jul 16 13:19	19° \mathbb{M} 27'04			2699 Nov 14 13:47	15° $\mathbb{R}\mathcal{B}$	
	2694 Oct 16 13:14	0° \mathcal{J}		direct	2700 Jan 05 05:37	10° \mathcal{B} 55'16	
evening set	2694 Nov 19 10:53	7° \mathcal{J} 08'22			2700 Feb 24 16:51	15° \mathcal{B}	
max. Earth dist.	2694 Nov 30 01:14	9° \mathcal{J} 29'03	6.36843 AU		2700 May 09 00:09	0° \mathbb{I}	
				evening set	2700 May 11 05:48	0° \mathbb{I} 31'38	
conjunction	2694 Dec 02 04:01	9° \mathcal{J} 57'15	0°39'09				
minimum elong	2694 Dec 02 04:03	9° \mathcal{J} 57'16	0°39'09	conjunction	2700 May 24 20:45	3° \mathbb{I} 45'20	0°-43'-44
morning rise	2694 Dec 14 19:14	12° \mathcal{J} 45'28		minimum elong	2700 May 24 20:48	3° \mathbb{I} 45'22	0°43'45
	2695 Apr 04 14:09	0° \mathcal{Z}		max. Earth dist.	2700 May 27 03:54	4° \mathbb{I} 18'03	6.00688 AU
retrograde	2695 Apr 16 04:22	0° \mathcal{Z} 12'35		morning rise	2700 Jun 07 14:10	7° \mathbb{I} 00'06	
	2695 Apr 27 19:22	30° $\mathbb{R}\mathcal{J}$		retrograde	2700 Oct 15 20:18	26° \mathbb{I} 58'43	
opposition	2695 Jun 16 02:34	25° \mathcal{J} 20'30	0°35'28	min. Earth dist.	2700 Dec 12 22:02	22° \mathbb{I} 06'03	4.06595 AU
min. Earth dist.	2695 Jun 17 15:45	25° \mathcal{J} 08'39	4.30674 AU	opposition	2700 Dec 14 10:11	21° \mathbb{I} 53'44	0°-40'-54
direct	2695 Aug 17 05:01	20° \mathcal{J} 21'34		direct	2701 Feb 10 18:53	16° \mathbb{I} 55'38	
	2695 Nov 10 23:43	0° \mathcal{Z}			2701 May 21 09:00	0° \mathcal{E}	
evening set	2695 Dec 20 18:32	8° \mathcal{Z} 32'34		evening set	2701 Jun 17 05:32	5° \mathcal{E} 59'08	
max. Earth dist.	2695 Dec 31 10:31	10° \mathcal{Z} 58'43	6.23580 AU				
				conjunction	2701 Jun 30 23:28	9° \mathcal{E} 08'17	0°-9'-21
conjunction	2696 Jan 02 10:54	11° \mathcal{Z} 26'26	0°06'52	minimum elong	2701 Jun 30 23:29	9° \mathcal{E} 08'18	0°09'21
minimum elong	2696 Jan 02 10:54	11° \mathcal{Z} 26'26	0°06'52	behind sun begin	2701 Jun 30 16:32	9° \mathcal{E} 04'19	
behind sun begin	2696 Jan 02 03:29	11° \mathcal{Z} 22'12		behind sun end	2701 Jul 01 06:27	9° \mathcal{E} 12'16	
behind sun end	2696 Jan 02 18:19	11° \mathcal{Z} 30'40		max. Earth dist.	2701 Jul 03 03:12	9° \mathcal{E} 37'59	6.13581 AU
morning rise	2696 Jan 15 02:56	14° \mathcal{Z} 20'21		morning rise	2701 Jul 14 18:15	12° \mathcal{E} 17'32	
desc. node	2696 Mar 17 01:48	27° \mathcal{Z} 01'41		asc. node	2701 Oct 08 09:36	28° \mathcal{E} 29'40	
	2696 Apr 06 11:59	0° \approx			2701 Oct 23 01:49	0° \mathcal{Q}	
retrograde	2696 May 19 16:19	2° \approx 47'29		retrograde	2701 Nov 18 14:16	1° \mathcal{Q} 07'47	
	2696 Jul 02 11:35	30° $\mathbb{R}\mathcal{Z}$			2701 Dec 14 20:46	30° $\mathbb{R}\mathcal{E}$	
opposition	2696 Jul 19 10:17	27° \mathcal{Z} 53'48	0°-16'-55	min. Earth dist.	2702 Jan 16 03:07	26° \mathcal{E} 13'53	4.20967 AU
min. Earth dist.	2696 Jul 20 15:17	27° \mathcal{Z} 44'28	4.16055 AU	opposition	2702 Jan 17 06:41	26° \mathcal{E} 04'33	0°13'47
direct	2696 Sep 18 08:26	22° \mathcal{Z} 57'18		direct	2702 Mar 17 20:54	21° \mathcal{E} 03'43	
	2696 Nov 27 14:24	0° \approx			2702 Jun 07 04:46	0° \mathcal{Q}	

evening set	2702 Jul 22 12:37	9°♏27'25		evening set	2707 Dec 26 06:35	13°♁12'27	
				max. Earth dist.	2708 Jan 06 02:07	15°♁41'13	6.21655 AU
conjunction	2702 Aug 05 03:56	12°♏28'59	0°26'47	conjunction	2708 Jan 07 23:12	16°♁07'09	0°01'46
minimum elong	2702 Aug 05 03:54	12°♏28'58	0°26'47	minimum elong	2708 Jan 07 23:14	16°♁07'10	0°01'45
max. Earth dist.	2702 Aug 06 12:47	12°♏47'14	6.28272 AU	behind sun begin	2708 Jan 07 15:14	16°♁02'36	
	2702 Aug 16 12:10	15°♏		behind sun end	2708 Jan 08 07:13	16°♁11'44	
morning rise	2702 Aug 18 17:58	15°♏29'41		morning rise	2708 Jan 20 15:24	19°♁01'59	
	2702 Nov 03 20:56	0°♐		desc. node	2708 Jan 26 15:23	20°♁24'01	
retrograde	2702 Dec 20 04:22	3°♐14'38			2708 Mar 12 10:29	0°♐	
	2703 Feb 04 16:48	30°♐♏		retrograde	2708 May 25 16:25	7°♐38'00	
opposition	2703 Feb 18 03:56	28°♏14'54	1°00'39	opposition	2708 Jul 25 09:38	2°♐43'57	0°-24'-33
min. Earth dist.	2703 Feb 17 15:09	28°♏19'08	4.34733 AU	min. Earth dist.	2708 Jul 26 12:33	2°♐35'17	4.14181 AU
direct	2703 Apr 20 01:27	23°♏12'30			2708 Aug 16 20:59	30°♐♁	
	2703 Jun 30 02:31	0°♐		direct	2708 Sep 24 03:00	27°♁47'48	
evening set	2703 Aug 24 19:58	11°♐02'56			2708 Oct 31 20:02	0°♐	
					2709 Jan 20 02:16	15°♐	
conjunction	2703 Sep 07 04:36	13°♐56'51	0°53'13	evening set	2709 Jan 27 10:59	16°♐43'26	
minimum elong	2703 Sep 07 04:34	13°♐56'50	0°53'12	max. Earth dist.	2709 Feb 08 04:05	19°♐29'50	6.07206 AU
max. Earth dist.	2703 Sep 07 08:01	13°♐58'43	6.40060 AU				
morning rise	2703 Sep 20 11:01	16°♐49'31		conjunction	2709 Feb 09 06:02	19°♐45'14	0°-33'-47
	2703 Nov 29 12:31	0°♑		minimum elong	2709 Feb 09 06:00	19°♐45'13	0°33'47
retrograde	2704 Jan 19 13:18	3°♑49'59		morning rise	2709 Feb 22 02:31	22°♐48'01	
	2704 Mar 11 07:32	30°♐♐			2709 Mar 25 16:11	0°♐	
opposition	2704 Mar 19 20:08	28°♐53'52	1°27'58	retrograde	2709 Jul 01 17:10	12°♐33'43	
min. Earth dist.	2704 Mar 20 03:00	28°♐51'38	4.43828 AU	opposition	2709 Aug 31 01:44	7°♐36'25	-1°-12'-43
direct	2704 May 20 21:56	23°♐51'03		min. Earth dist.	2709 Aug 31 07:59	7°♐34'21	4.01195 AU
	2704 Jul 27 23:00	0°♑		direct	2709 Oct 29 07:20	2°♐42'17	
evening set	2704 Sep 24 11:34	11°♑22'20		evening set	2710 Mar 03 17:51	22°♐13'45	
conjunction	2704 Oct 07 13:08	14°♑11'08	1°04'01	conjunction	2710 Mar 16 18:43	25°♐22'41	0°-58'-33
minimum elong	2704 Oct 07 13:08	14°♑11'08	1°04'01	minimum elong	2710 Mar 16 18:42	25°♐22'41	0°58'33
max. Earth dist.	2704 Oct 06 14:08	13°♑58'43	6.45749 AU	max. Earth dist.	2710 Mar 17 01:58	25°♐27'04	5.96883 AU
morning rise	2704 Oct 20 11:51	16°♑58'35		morning rise	2710 Mar 29 22:01	28°♐33'07	
	2704 Dec 29 08:01	0°♒			2710 Apr 04 23:16	0°♐	
retrograde	2705 Feb 17 13:35	3°♒41'47		retrograde	2710 Aug 09 01:09	19°♐08'23	
	2705 Apr 09 20:09	30°♐♑		opposition	2710 Oct 07 22:32	14°♐07'11	-1°-34'-58
opposition	2705 Apr 19 05:15	28°♑48'24	1°31'11	min. Earth dist.	2710 Oct 07 06:50	14°♐12'26	3.94744 AU
min. Earth dist.	2705 Apr 20 04:17	28°♑41'00	4.45903 AU	direct	2710 Dec 05 02:39	9°♐13'25	
direct	2705 Jun 20 21:19	23°♑46'12		evening set	2711 Apr 09 19:05	29°♐00'09	
	2705 Aug 28 15:49	0°♒			2711 Apr 13 22:30	0°♑	
evening set	2705 Oct 25 04:15	11°♒15'27					
max. Earth dist.	2705 Nov 05 05:42	13°♒39'33	6.44000 AU				
				conjunction	2711 Apr 23 03:45	2°♑13'39	-1°-1'-4
conjunction	2705 Nov 07 00:08	14°♒02'41	0°57'30	minimum elong	2711 Apr 23 03:46	2°♑13'40	1°01'06
minimum elong	2705 Nov 07 00:10	14°♒02'42	0°57'29	max. Earth dist.	2711 Apr 24 18:10	2°♑36'52	5.94853 AU
	2705 Nov 11 09:17	15°♒		morning rise	2711 May 06 15:34	5°♑28'46	
morning rise	2705 Nov 19 17:29	16°♒48'49			2711 Jun 17 10:45	15°♑	
	2706 Jan 28 20:10	0°♑		retrograde	2711 Sep 15 19:56	26°♑06'07	
retrograde	2706 Mar 20 09:42	3°♑43'32		min. Earth dist.	2711 Nov 13 02:25	21°♑12'54	3.97492 AU
	2706 May 11 05:16	30°♐♒		opposition	2711 Nov 14 10:56	21°♑01'51	-1°-19'-13
opposition	2706 May 20 06:21	28°♒51'32	1°10'11	direct	2712 Jan 11 07:27	16°♑06'17	
min. Earth dist.	2706 May 21 17:16	28°♒40'24	4.40466 AU		2712 Apr 21 20:30	0°♒	
direct	2706 Jul 21 22:57	23°♒50'47		evening set	2712 May 16 10:29	5°♒39'33	
	2706 Sep 27 15:47	0°♑					
evening set	2706 Nov 24 18:58	11°♑35'25		conjunction	2712 May 30 02:08	8°♒52'58	0°-39'-34
max. Earth dist.	2706 Dec 05 07:41	13°♑55'47	6.35232 AU	minimum elong	2712 May 30 02:10	8°♒52'59	0°39'36
				max. Earth dist.	2712 Jun 01 08:58	9°♒25'23	6.02045 AU
conjunction	2706 Dec 07 11:45	14°♑24'49	0°35'09	morning rise	2712 Jun 12 20:08	12°♒07'20	
minimum elong	2706 Dec 07 11:46	14°♑24'50	0°35'09		2712 Sep 15 12:33	0°♓	
morning rise	2706 Dec 20 03:03	17°♑13'40		retrograde	2712 Oct 20 16:38	1°♓58'04	
	2707 Feb 23 01:49	0°♓			2712 Nov 24 14:40	30°♐♒	
retrograde	2707 Apr 21 21:20	4°♓47'47		min. Earth dist.	2712 Dec 17 19:29	27°♒05'03	4.08252 AU
opposition	2707 Jun 21 19:14	29°♑55'29	0°28'35	opposition	2712 Dec 19 06:19	26°♒53'10	0°-33'-28
	2707 Jun 21 05:03	30°♐♑		direct	2713 Feb 15 19:04	21°♒54'38	
min. Earth dist.	2707 Jun 23 07:36	29°♑43'52	4.28829 AU		2713 May 01 23:46	0°♓	
direct	2707 Aug 22 18:43	24°♑56'47		evening set	2713 Jun 22 06:07	10°♓53'29	
	2707 Oct 21 13:07	0°♓					

conjunction	2713 Jul 06 00:13	14° \mathring{S} 01'53	0°-4'-6			2718 Aug 30 04:23	0° \mathring{S}	
minimum elong	2713 Jul 06 00:13	14° \mathring{S} 01'53	0°04'07	evening set		2718 Nov 29 01:46	16° \mathring{S} 00'13	
behind sun begin	2713 Jul 05 15:58	13° \mathring{S} 57'11		max. Earth dist.		2718 Dec 09 15:49	18° \mathring{S} 21'40	6.34200 AU
behind sun end	2713 Jul 06 08:28	14° \mathring{S} 06'34						
max. Earth dist.	2713 Jul 08 03:25	14° \mathring{S} 31'08	6.15405 AU	conjunction		2718 Dec 11 18:19	18° \mathring{S} 49'54	0°31'04
morning rise	2713 Jul 19 18:35	17° \mathring{S} 10'08		minimum elong		2718 Dec 11 18:21	18° \mathring{S} 49'55	0°31'04
asc. node	2713 Aug 18 06:39	23° \mathring{S} 38'34		morning rise		2718 Dec 24 09:19	21° \mathring{S} 39'05	
	2713 Sep 20 16:26	0° \mathring{Q}				2719 Feb 01 21:49	0° \mathring{S}	
retrograde	2713 Nov 23 03:30	5° \mathring{Q} 51'33		retrograde		2719 Apr 26 11:37	9° \mathring{S} 18'19	
opposition	2714 Jan 21 20:17	0° \mathring{Q} 48'49	0°21'12	opposition		2719 Jun 26 09:35	4° \mathring{S} 25'54	0°21'45
min. Earth dist.	2714 Jan 20 17:52	0° \mathring{Q} 57'43	4.22785 AU	min. Earth dist.		2719 Jun 27 21:59	4° \mathring{S} 14'17	4.27545 AU
	2714 Jan 27 21:45	30° \mathring{R} \mathring{S}				2719 Aug 08 11:36	30° \mathring{R} \mathring{S}	
direct	2714 Mar 22 13:53	25° \mathring{S} 47'45		direct		2719 Aug 27 06:48	29° \mathring{S} 27'32	
	2714 May 15 01:48	0° \mathring{Q}				2719 Sep 15 00:52	0° \mathring{S}	
evening set	2714 Jul 27 07:33	14° \mathring{Q} 07'08		desc. node		2719 Dec 08 11:26	12° \mathring{S} 48'42	
	2714 Jul 31 07:23	15° \mathring{Q}		evening set		2719 Dec 30 16:02	17° \mathring{S} 46'09	
				max. Earth dist.		2720 Jan 10 11:36	20° \mathring{S} 15'28	6.20214 AU
conjunction	2714 Aug 09 21:59	17° \mathring{Q} 07'40	0°31'17	conjunction		2720 Jan 12 08:37	20° \mathring{S} 41'27	0°-3'-15
minimum elong	2714 Aug 09 21:57	17° \mathring{Q} 07'39	0°31'17	minimum elong		2720 Jan 12 08:36	20° \mathring{S} 41'27	0°03'16
max. Earth dist.	2714 Aug 11 01:55	17° \mathring{Q} 23'08	6.29942 AU	behind sun begin		2720 Jan 12 00:40	20° \mathring{S} 36'53	
morning rise	2714 Aug 23 11:15	20° \mathring{Q} 07'18		behind sun end		2720 Jan 12 16:33	20° \mathring{S} 46'00	
	2714 Oct 10 15:55	0° \mathring{R}		morning rise		2720 Jan 25 01:14	23° \mathring{S} 37'01	
retrograde	2714 Dec 24 13:27	7° \mathring{R} 45'31				2720 Feb 22 17:01	0° \mathring{S}	
opposition	2715 Feb 22 13:06	2° \mathring{R} 46'20	1°05'51	retrograde		2720 May 30 12:00	12° \mathring{S} 20'27	
min. Earth dist.	2715 Feb 22 03:25	2° \mathring{R} 49'33	4.36156 AU	opposition		2720 Jul 30 05:09	7° \mathring{S} 25'59	0°-31'-43
	2715 Mar 16 18:37	30° \mathring{R} \mathring{Q}		min. Earth dist.		2720 Jul 31 05:50	7° \mathring{S} 18'01	4.12673 AU
direct	2715 Apr 24 15:29	27° \mathring{Q} 43'52		direct		2720 Sep 28 17:51	2° \mathring{S} 30'04	
	2715 Jun 02 22:05	0° \mathring{R}				2721 Jan 03 15:51	15° \mathring{S}	
evening set	2715 Aug 29 09:18	15° \mathring{R} 31'23		evening set		2721 Feb 01 01:09	21° \mathring{S} 29'37	
conjunction	2715 Sep 11 17:07	18° \mathring{R} 24'31	0°55'46	conjunction		2721 Feb 13 20:52	24° \mathring{S} 32'17	0°-37'-59
minimum elong	2715 Sep 11 17:05	18° \mathring{R} 24'30	0°55'45	minimum elong		2721 Feb 13 20:50	24° \mathring{S} 32'16	0°38'00
max. Earth dist.	2715 Sep 11 18:29	18° \mathring{R} 25'15	6.41157 AU	max. Earth dist.		2721 Feb 12 23:09	24° \mathring{S} 19'22	6.05772 AU
morning rise	2715 Sep 24 22:16	21° \mathring{R} 16'16		morning rise		2721 Feb 26 17:54	27° \mathring{S} 35'58	
	2715 Nov 06 21:46	0° \mathring{S}				2721 Mar 08 23:17	0° \mathring{R}	
retrograde	2716 Jan 23 18:14	8° \mathring{S} 12'57		retrograde		2721 Jul 06 19:18	17° \mathring{R} 29'14	
opposition	2716 Mar 24 03:09	3° \mathring{S} 17'21	1°29'55	opposition		2721 Sep 05 01:46	12° \mathring{R} 31'28	-1°-17'-33
min. Earth dist.	2716 Mar 24 11:05	3° \mathring{S} 14'46	4.44579 AU	min. Earth dist.		2721 Sep 05 06:40	12° \mathring{R} 29'51	3.99970 AU
	2716 Apr 20 19:08	30° \mathring{R} \mathring{R}		direct		2721 Nov 03 04:09	7° \mathring{R} 37'27	
direct	2716 May 25 06:34	28° \mathring{R} 14'41		evening set		2722 Mar 08 14:18	27° \mathring{R} 12'23	
	2716 Jun 29 03:25	0° \mathring{S}				2722 Mar 20 03:29	0° \mathring{Y}	
evening set	2716 Sep 28 20:50	15° \mathring{S} 44'32						
conjunction	2716 Oct 11 21:21	18° \mathring{S} 32'49	1°04'08	conjunction		2722 Mar 21 16:01	0° \mathring{Y} 22'09	-1°00'-19
minimum elong	2716 Oct 11 21:21	18° \mathring{S} 32'49	1°04'09	minimum elong		2722 Mar 21 16:00	0° \mathring{Y} 22'08	1°00'19
max. Earth dist.	2716 Oct 10 19:25	18° \mathring{S} 18'48	6.46122 AU	max. Earth dist.		2722 Mar 22 01:37	0° \mathring{Y} 27'57	5.95974 AU
morning rise	2716 Oct 24 19:12	21° \mathring{S} 19'46		morning rise		2722 Apr 03 20:35	3° \mathring{Y} 33'31	
	2716 Dec 06 16:45	0° \mathring{R}		retrograde		2722 Aug 14 03:26	24° \mathring{Y} 12'52	
retrograde	2717 Feb 21 21:09	8° \mathring{R} 02'14		opposition		2722 Oct 12 23:52	19° \mathring{Y} 11'13	-1°-35'-6
opposition	2717 Apr 23 13:03	3° \mathring{R} 09'12	1°29'38	min. Earth dist.		2722 Oct 12 05:10	19° \mathring{Y} 17'30	3.94280 AU
min. Earth dist.	2717 Apr 24 14:23	3° \mathring{R} 01'04	4.45897 AU	direct		2722 Dec 10 00:31	14° \mathring{Y} 17'17	
	2717 May 20 04:45	30° \mathring{R} \mathring{S}				2723 Mar 28 14:00	0° \mathring{S}	
direct	2717 Jun 25 07:25	28° \mathring{S} 07'12		evening set		2723 Apr 14 20:21	4° \mathring{S} 05'25	
	2717 Jul 31 12:55	0° \mathring{R}						
	2717 Oct 26 15:37	15° \mathring{R}		conjunction		2723 Apr 28 06:11	7° \mathring{S} 19'28	0°-59'-28
evening set	2717 Oct 29 10:58	15° \mathring{R} 36'21		minimum elong		2723 Apr 28 06:12	7° \mathring{S} 19'29	0°59'28
max. Earth dist.	2717 Nov 09 09:54	17° \mathring{R} 59'18	6.43616 AU	max. Earth dist.		2723 Apr 29 22:47	7° \mathring{S} 43'59	5.94881 AU
				morning rise		2723 May 11 19:07	10° \mathring{S} 35'04	
conjunction	2717 Nov 11 06:13	18° \mathring{R} 23'29	0°55'15			2723 May 30 13:01	15° \mathring{S}	
minimum elong	2717 Nov 11 06:15	18° \mathring{R} 23'29	0°55'15			2723 Aug 24 21:07	0° \mathring{R}	
morning rise	2717 Nov 23 23:03	21° \mathring{R} 09'34		retrograde		2723 Sep 20 20:20	1° \mathring{R} 10'45	
	2718 Jan 06 05:50	0° \mathring{S}				2723 Oct 17 15:06	30° \mathring{R} \mathring{S}	
retrograde	2718 Mar 24 18:20	8° \mathring{S} 06'36		min. Earth dist.		2723 Nov 18 01:24	26° \mathring{S} 17'25	3.97998 AU
opposition	2718 May 24 16:35	3° \mathring{S} 14'37	1°05'30	opposition		2723 Nov 19 10:16	26° \mathring{S} 06'14	-1°-14'-25
min. Earth dist.	2718 May 26 03:22	3° \mathring{S} 03'31	4.39727 AU	direct		2724 Jan 16 07:55	21° \mathring{S} 10'16	
	2718 Jun 21 11:00	30° \mathring{R} \mathring{R}				2724 Apr 03 00:12	0° \mathring{R}	
direct	2718 Jul 26 07:34	28° \mathring{R} 14'06		evening set		2724 May 21 12:49	10° \mathring{R} 42'04	

conjunction	2724 Jun 04 05:25	13°II55'26	0°-35'-14	retrograde	2730 Mar 29 05:48	12°X29'53	
minimum elong	2724 Jun 04 05:27	13°II55'27	0°35'15	opposition	2730 May 29 03:33	7°X37'59	1°00'21
max. Earth dist.	2724 Jun 06 14:20	14°II28'58	6.03006 AU	min. Earth dist.	2730 May 30 16:13	7°X26'19	4.38456 AU
morning rise	2724 Jun 17 23:54	17°II09'35		direct	2730 Jul 30 18:01	2°X37'43	
	2724 Aug 17 10:29	0°☾		evening set	2730 Dec 03 09:34	20°X27'11	
retrograde	2724 Oct 25 12:19	6°☾53'49		max. Earth dist.	2730 Dec 13 22:07	22°X48'23	6.32524 AU
min. Earth dist.	2724 Dec 22 14:02	2°☾00'55	4.09554 AU				
opposition	2724 Dec 24 00:49	1°☾49'05	0°-26'00	conjunction	2730 Dec 16 01:57	23°X17'28	0°26'41
	2725 Jan 06 17:12	30°RII		minimum elong	2730 Dec 16 01:58	23°X17'29	0°26'41
direct	2725 Feb 20 15:58	26°II50'10		morning rise	2730 Dec 28 17:04	26°X07'22	
	2725 Apr 06 15:33	0°☾			2731 Jan 15 08:23	0°☾	
evening set	2725 Jun 27 06:04	15°☾45'35		retrograde	2731 May 01 04:34	13°☾54'17	
asc. node	2725 Jun 28 21:41	16°☾08'02		opposition	2731 Jul 01 02:41	9°☾01'39	0°14'32
				min. Earth dist.	2731 Jul 02 13:38	8°☾50'29	4.25559 AU
conjunction	2725 Jul 10 23:55	18°☾53'13	0°01'10	direct	2731 Aug 31 19:10	4°☾03'36	
minimum elong	2725 Jul 10 23:55	18°☾53'13	0°01'10	desc. node	2731 Oct 18 08:26	7°☾22'51	
behind sun begin	2725 Jul 10 15:32	18°☾48'28		evening set	2732 Jan 04 04:40	22°☾27'44	
behind sun end	2725 Jul 11 08:18	18°☾57'58		max. Earth dist.	2732 Jan 15 03:41	24°☾59'43	6.18089 AU
max. Earth dist.	2725 Jul 13 00:11	19°☾20'41	6.16938 AU				
morning rise	2725 Jul 24 18:09	22°☾00'39		conjunction	2732 Jan 16 21:34	25°☾24'01	0°-8'-20
	2725 Aug 30 18:14	0°♈		minimum elong	2732 Jan 16 21:34	25°☾24'01	0°08'21
retrograde	2725 Nov 27 15:49	10°♈34'05		behind sun begin	2732 Jan 16 14:30	25°☾19'56	
min. Earth dist.	2726 Jan 25 08:34	5°♈40'00	4.24402 AU	behind sun end	2732 Jan 17 04:38	25°☾28'05	
opposition	2726 Jan 26 09:20	5°♈31'40	0°28'21	morning rise	2732 Jan 29 14:30	28°☾20'39	
direct	2726 Mar 27 07:19	0°♈30'15			2732 Feb 05 19:42	0°≈	
	2726 Jul 14 16:51	15°♈			2732 Apr 27 04:47	15°≈	
evening set	2726 Aug 01 02:06	18°♈45'40		retrograde	2732 Jun 04 14:58	17°≈14'15	
					2732 Jul 13 07:08	15°R≈	
conjunction	2726 Aug 14 15:57	21°♈45'14	0°35'31	opposition	2732 Aug 04 05:45	12°≈19'28	0°-39'-4
minimum elong	2726 Aug 14 15:55	21°♈45'13	0°35'31	min. Earth dist.	2732 Aug 05 05:13	12°≈11'52	4.10568 AU
max. Earth dist.	2726 Aug 15 18:21	21°♈59'49	6.31529 AU	direct	2732 Oct 03 14:15	7°≈23'53	
morning rise	2726 Aug 28 04:04	24°♈43'44			2732 Dec 15 05:22	15°≈	
	2726 Sep 21 20:26	0°♐		evening set	2733 Feb 05 21:16	26°≈29'37	
retrograde	2726 Dec 28 21:03	12°♐15'06					
opposition	2727 Feb 26 21:54	7°♐16'22	1°10'36	conjunction	2733 Feb 18 17:35	29°≈33'25	0°-42'-9
min. Earth dist.	2727 Feb 26 13:41	7°♐19'05	4.37577 AU	minimum elong	2733 Feb 18 17:33	29°≈33'24	0°42'11
direct	2727 Apr 29 03:36	2°♐13'46		max. Earth dist.	2733 Feb 17 22:23	29°≈21'56	6.03874 AU
evening set	2727 Sep 02 22:03	19°♐57'53			2733 Feb 20 14:05	0°♑	
				morning rise	2733 Mar 03 15:39	2°♑38'21	
conjunction	2727 Sep 16 04:39	22°♐50'06	0°57'57	retrograde	2733 Jul 12 02:33	22°♑40'51	
minimum elong	2727 Sep 16 04:37	22°♐50'05	0°57'57	opposition	2733 Sep 10 08:09	17°♑42'36	-1°-22'-8
max. Earth dist.	2727 Sep 16 01:13	22°♐48'14	6.42271 AU	min. Earth dist.	2733 Sep 10 08:57	17°♑42'20	3.98495 AU
morning rise	2727 Sep 29 08:52	25°♐40'59		direct	2733 Nov 08 05:01	12°♑48'46	
	2727 Oct 19 20:02	0°♒			2734 Mar 03 10:16	0°♑	
retrograde	2728 Jan 28 00:49	12°♒33'41		evening set	2734 Mar 13 17:49	2°♑28'05	
opposition	2728 Mar 28 10:01	7°♒38'25	1°31'19				
min. Earth dist.	2728 Mar 28 21:00	7°♒34'51	4.45299 AU	conjunction	2734 Mar 26 20:40	5°♑38'47	-1°-1'-43
direct	2728 May 29 17:06	2°♒35'41		minimum elong	2734 Mar 26 20:39	5°♑38'47	1°01'45
evening set	2728 Oct 03 04:54	20°♒03'53		max. Earth dist.	2734 Mar 27 11:21	5°♑47'42	5.95065 AU
max. Earth dist.	2728 Oct 15 00:42	22°♒36'37	6.46358 AU	morning rise	2734 Apr 09 02:22	8°♑51'07	
				retrograde	2734 Aug 19 13:26	29°♑34'15	
conjunction	2728 Oct 16 04:40	22°♒51'43	1°03'53	min. Earth dist.	2734 Oct 17 11:08	24°♑39'09	3.94061 AU
minimum elong	2728 Oct 16 04:41	22°♒51'43	1°03'52	opposition	2734 Oct 18 08:02	24°♑32'07	-1°-34'-28
morning rise	2728 Oct 29 01:30	25°♒38'14		direct	2734 Dec 15 07:17	19°♑38'04	
	2728 Nov 18 19:16	0°♓			2735 Mar 09 20:09	0°♓	
retrograde	2729 Feb 26 02:08	12°♓20'25		evening set	2735 Apr 20 04:04	9°♓26'20	
opposition	2729 Apr 27 20:15	7°♓27'34	1°27'34				
min. Earth dist.	2729 Apr 28 22:30	7°♓19'10	4.45625 AU	conjunction	2735 May 03 15:08	12°♓40'42	0°-57'-17
direct	2729 Jun 29 14:07	2°♓25'43		minimum elong	2735 May 03 15:10	12°♓40'44	0°57'17
	2729 Oct 10 09:41	15°♓		max. Earth dist.	2735 May 05 12:46	13°♓08'12	5.95394 AU
evening set	2729 Nov 02 17:26	19°♓55'41			2735 May 13 06:40	15°♓	
max. Earth dist.	2729 Nov 13 14:03	22°♓17'42	6.42835 AU	morning rise	2735 May 17 05:04	15°♓56'32	
					2735 Jul 21 15:11	0°♐	
conjunction	2729 Nov 15 12:02	22°♓42'52	0°52'40	retrograde	2735 Sep 26 01:26	6°♐27'47	
minimum elong	2729 Nov 15 12:04	22°♓42'53	0°52'41	min. Earth dist.	2735 Nov 23 03:48	1°♐34'51	3.99214 AU
morning rise	2729 Nov 28 04:25	25°♓29'06		opposition	2735 Nov 24 14:14	1°♐23'07	-1°-8'-47
	2729 Dec 19 08:48	0°♑			2735 Dec 04 21:48	30°R♓	

direct	2736 Jan 21 12:39	26°♄26'52		max. Earth dist.	2741 Nov 17 16:20	26°♄32'59	6.41568 AU
	2736 Mar 08 15:03	0°♄					
evening set	2736 May 26 19:33	15°♄54'19		conjunction	2741 Nov 19 16:04	26°♄59'11	0°49'52
				minimum elong	2741 Nov 19 16:05	26°♄59'12	0°49'52
conjunction	2736 Jun 09 12:30	19°♄07'04	0°-30'-30	morning rise	2741 Dec 02 08:02	29°♄45'46	
minimum elong	2736 Jun 09 12:32	19°♄07'05	0°30'30		2741 Dec 03 10:08	0°♄	
max. Earth dist.	2736 Jun 11 20:54	19°♄40'08	6.04802 AU	retrograde	2742 Apr 02 15:21	16°♄52'09	
morning rise	2736 Jun 23 07:27	22°♄20'30		opposition	2742 Jun 02 13:56	12°♄00'12	0°54'57
	2736 Jul 27 13:31	0°♄		min. Earth dist.	2742 Jun 04 02:34	11°♄48'32	4.36644 AU
retrograde	2736 Oct 30 06:58	11°♄54'42		direct	2742 Aug 04 00:58	7°♄00'10	
min. Earth dist.	2736 Dec 27 10:18	7°♄01'52	4.11734 AU	evening set	2742 Dec 07 17:26	24°♄54'50	
opposition	2736 Dec 28 20:52	6°♄50'06	0°-18'-12	max. Earth dist.	2742 Dec 18 06:24	27°♄16'59	6.30307 AU
direct	2737 Feb 25 16:01	1°♄50'46					
asc. node	2737 May 08 17:29	9°♄16'12		conjunction	2742 Dec 20 09:44	27°♄45'57	0°22'12
evening set	2737 Jul 02 06:27	20°♄39'35		minimum elong	2742 Dec 20 09:45	27°♄45'58	0°22'12
					2742 Dec 30 07:28	0°♄	
conjunction	2737 Jul 16 00:06	23°♄46'01	0°06'24	morning rise	2743 Jan 02 00:58	0°♄36'47	
minimum elong	2737 Jul 16 00:05	23°♄46'01	0°06'24	retrograde	2743 May 06 01:06	18°♄33'21	
behind sun begin	2737 Jul 15 16:15	23°♄41'36		opposition	2743 Jul 05 21:08	13°♄40'32	0°07'12
behind sun end	2737 Jul 16 07:56	23°♄50'26		min. Earth dist.	2743 Jul 07 08:14	13°♄29'18	4.23068 AU
max. Earth dist.	2737 Jul 17 23:04	24°♄12'38	6.19325 AU	desc. node	2743 Aug 28 11:43	8°♄48'43	
morning rise	2737 Jul 29 17:32	26°♄52'05		direct	2743 Sep 05 10:07	8°♄42'48	
	2737 Aug 12 20:24	0°♄		evening set	2744 Jan 08 19:15	27°♄14'10	
	2737 Nov 19 20:41	15°♄		max. Earth dist.	2744 Jan 19 20:08	29°♄48'07	6.15542 AU
retrograde	2737 Dec 02 03:28	15°♄14'45			2744 Jan 20 16:31	0°♄	
	2737 Dec 14 07:29	15°♄					
opposition	2738 Jan 30 21:34	10°♄12'48	0°35'14	conjunction	2744 Jan 21 12:32	0°♄11'40	0°-13'-24
min. Earth dist.	2738 Jan 29 22:55	10°♄20'24	4.26762 AU	minimum elong	2744 Jan 21 12:31	0°♄11'40	0°13'25
direct	2738 Apr 01 00:25	5°♄11'10		behind sun begin	2744 Jan 21 07:50	0°♄08'56	
	2738 Jun 26 17:47	15°♄		behind sun end	2744 Jan 21 17:12	0°♄14'23	
evening set	2738 Aug 05 18:27	23°♄20'11		morning rise	2744 Feb 03 06:10	3°♄09'39	
					2744 Mar 29 21:42	15°♄	
conjunction	2738 Aug 19 07:12	26°♄18'26	0°39'28	retrograde	2744 Jun 09 18:31	22°♄14'52	
minimum elong	2738 Aug 19 07:10	26°♄18'25	0°39'28	opposition	2744 Aug 09 09:01	17°♄19'39	0°-46'-14
max. Earth dist.	2738 Aug 20 04:49	26°♄30'19	6.33654 AU	min. Earth dist.	2744 Aug 10 04:39	17°♄13'16	4.08195 AU
morning rise	2738 Sep 01 18:20	29°♄15'36			2744 Aug 28 01:31	15°♄	
	2738 Sep 05 03:56	0°♄		direct	2744 Oct 08 11:01	12°♄24'25	
retrograde	2739 Jan 02 01:42	16°♄38'58			2744 Nov 18 03:22	15°♄	
opposition	2739 Mar 03 04:18	11°♄40'41	1°14'48		2745 Feb 04 00:27	0°♄	
min. Earth dist.	2739 Mar 02 22:56	11°♄42'27	4.39327 AU	evening set	2745 Feb 10 20:27	1°♄37'07	
direct	2739 May 03 14:21	6°♄37'56					
evening set	2739 Sep 07 07:20	24°♄17'51		conjunction	2745 Feb 23 17:34	4°♄42'08	0°-46'-4
				minimum elong	2745 Feb 23 17:32	4°♄42'07	0°46'04
conjunction	2739 Sep 20 13:01	27°♄09'10	0°59'45	max. Earth dist.	2745 Feb 23 03:49	4°♄33'53	6.01899 AU
minimum elong	2739 Sep 20 12:59	27°♄09'09	0°59'45	morning rise	2745 Mar 08 16:34	7°♄48'23	
max. Earth dist.	2739 Sep 20 06:35	27°♄05'41	6.43509 AU	retrograde	2745 Jul 17 14:53	28°♄00'07	
morning rise	2739 Oct 03 15:54	29°♄59'04		opposition	2745 Sep 15 17:49	23°♄01'16	-1°-26'-5
	2739 Oct 03 17:37	0°♄		min. Earth dist.	2745 Sep 15 15:31	23°♄02'02	3.97136 AU
retrograde	2740 Feb 01 02:45	16°♄47'55		direct	2745 Nov 13 11:26	18°♄07'32	
opposition	2740 Apr 01 13:53	11°♄53'03	1°32'12		2746 Feb 13 07:12	0°♄	
min. Earth dist.	2740 Apr 02 03:12	11°♄48'44	4.45956 AU	evening set	2746 Mar 19 00:24	7°♄50'20	
direct	2740 Jun 02 23:02	6°♄50'22					
evening set	2740 Oct 07 10:05	24°♄17'19		conjunction	2746 Apr 01 04:27	11°♄01'52	-1°-2'-37
max. Earth dist.	2740 Oct 18 23:59	26°♄47'02	6.46363 AU	minimum elong	2746 Apr 01 04:27	11°♄01'51	1°02'38
				max. Earth dist.	2746 Apr 02 01:26	11°♄14'36	5.94455 AU
conjunction	2740 Oct 20 08:52	27°♄04'48	1°03'18	morning rise	2746 Apr 14 11:20	14°♄15'00	
minimum elong	2740 Oct 20 08:52	27°♄04'48	1°03'17		2746 Jun 28 05:32	0°♄	
morning rise	2740 Nov 02 05:04	29°♄51'02		retrograde	2746 Aug 25 00:04	4°♄59'38	
	2740 Nov 02 21:46	0°♄		opposition	2746 Oct 23 17:33	29°♄57'00	-1°-32'-57
	2741 Jan 29 04:54	15°♄		min. Earth dist.	2746 Oct 22 17:30	0°♄05'07	3.94298 AU
retrograde	2741 Mar 02 08:04	16°♄34'04			2746 Oct 23 08:40	30°♄	
	2741 Apr 03 12:07	15°♄		direct	2746 Dec 20 14:44	25°♄02'46	
opposition	2741 May 02 01:46	11°♄41'25	1°25'07		2747 Feb 14 13:12	0°♄	
min. Earth dist.	2741 May 03 07:13	11°♄32'00	4.44976 AU	evening set	2747 Apr 25 13:27	14°♄49'10	
direct	2741 Jul 03 20:51	6°♄39'39			2747 Apr 26 07:35	15°♄	
	2741 Sep 22 16:05	15°♄					
evening set	2741 Nov 06 21:45	24°♄11'40		conjunction	2747 May 09 01:24	18°♄03'30	0°-54'-35

minimum elong	2747 May 09 01:26	18°♄03'31	0°54'36	opposition	2753 May 06 09:33	16°♍00'40	1°22'10
max. Earth dist.	2747 May 11 01:03	18°♄32'07	5.96409 AU	min. Earth dist.	2753 May 07 16:09	15°♍50'53	4.44086 AU
morning rise	2747 May 22 16:26	21°♄19'17			2753 May 14 08:45	15°♍♍	
	2747 Jun 29 19:03	0°♄		direct	2753 Jul 08 03:53	10°♍59'10	
retrograde	2747 Oct 01 03:58	11°♄43'37			2753 Aug 31 03:31	15°♍	
min. Earth dist.	2747 Nov 28 05:47	6°♄50'57	4.00863 AU	evening set	2753 Nov 11 04:37	28°♍33'57	
opposition	2747 Nov 29 17:38	6°♄38'43	-1°-2'-33		2753 Nov 17 17:44	0°♄	
direct	2748 Jan 26 18:18	1°♄42'00		max. Earth dist.	2753 Nov 21 20:17	0°♄54'14	6.40165 AU
evening set	2748 Jun 01 01:28	21°♄03'38					
				conjunction	2753 Nov 23 22:22	1°♄21'50	0°46'42
conjunction	2748 Jun 14 18:57	24°♄15'36	0°-25'-31	minimum elong	2753 Nov 23 22:24	1°♄21'51	0°46'42
minimum elong	2748 Jun 14 18:58	24°♄15'37	0°25'32	morning rise	2753 Dec 06 14:13	4°♄08'55	
max. Earth dist.	2748 Jun 17 03:55	24°♄48'51	6.06925 AU	retrograde	2754 Apr 07 06:05	21°♄21'28	
morning rise	2748 Jun 28 13:52	27°♄28'04		opposition	2754 Jun 07 03:26	16°♄29'31	0°49'04
	2748 Jul 09 15:08	0°♄		min. Earth dist.	2754 Jun 08 17:14	16°♄17'28	4.34805 AU
retrograde	2748 Nov 04 02:03	16°♄51'22		direct	2754 Aug 08 12:43	11°♄29'48	
min. Earth dist.	2749 Jan 01 06:57	11°♄58'12	4.14074 AU	evening set	2754 Dec 12 03:35	29°♄29'37	
opposition	2749 Jan 02 15:48	11°♄47'02	0°-10'-20		2754 Dec 14 09:36	0°♄	
direct	2749 Mar 02 15:39	6°♄47'22		max. Earth dist.	2754 Dec 22 17:29	1°♄52'59	6.28189 AU
asc. node	2749 Mar 18 02:23	7°♄11'01					
evening set	2749 Jul 07 05:38	25°♄29'23		conjunction	2754 Dec 24 20:01	2°♄21'38	0°17'26
				minimum elong	2754 Dec 24 20:02	2°♄21'39	0°17'26
conjunction	2749 Jul 20 22:45	28°♄34'35	0°11'33	morning rise	2755 Jan 06 11:25	5°♄13'26	
minimum elong	2749 Jul 20 22:44	28°♄34'35	0°11'33	retrograde	2755 May 10 21:53	23°♄19'28	
behind sun begin	2749 Jul 20 16:53	28°♄31'17		desc. node	2755 Jul 07 15:59	18°♄50'12	
behind sun end	2749 Jul 21 04:36	28°♄37'52		opposition	2755 Jul 10 18:18	18°♄26'25	0°00'-24
max. Earth dist.	2749 Jul 22 18:34	28°♄59'16	6.21678 AU	min. Earth dist.	2755 Jul 12 02:51	18°♄15'59	4.20834 AU
	2749 Jul 27 06:27	0°♄		direct	2755 Sep 10 01:46	13°♄29'09	
morning rise	2749 Aug 03 15:34	1°♄39'19			2756 Jan 04 07:55	0°♄	
	2749 Oct 10 01:38	15°♄		evening set	2756 Jan 13 11:52	2°♄06'45	
retrograde	2749 Dec 06 12:17	19°♄51'53		max. Earth dist.	2756 Jan 24 16:42	4°♄43'46	6.13400 AU
min. Earth dist.	2750 Feb 03 11:45	14°♄57'26	4.28942 AU				
	2750 Feb 03 04:07	15°♄♍		conjunction	2756 Jan 26 05:27	5°♄05'19	0°-18'-30
opposition	2750 Feb 04 08:40	14°♄50'26	0°41'53	minimum elong	2756 Jan 26 05:26	5°♄05'18	0°18'32
direct	2750 Apr 05 15:31	9°♄48'36		morning rise	2756 Feb 07 23:39	8°♄04'27	
	2750 Jun 05 06:47	15°♄			2756 Mar 09 17:07	15°♄	
evening set	2750 Aug 10 10:09	27°♄52'18		retrograde	2756 Jun 15 01:34	27°♄19'55	
	2750 Aug 20 03:55	0°♄		opposition	2756 Aug 14 13:48	22°♄24'16	0°-53'-13
				min. Earth dist.	2756 Aug 15 06:50	22°♄18'43	4.06344 AU
conjunction	2750 Aug 23 22:00	0°♄49'23	0°43'13	direct	2756 Oct 13 12:01	17°♄29'21	
minimum elong	2750 Aug 23 21:57	0°♄49'22	0°43'12		2757 Jan 17 12:04	0°♄	
max. Earth dist.	2750 Aug 24 15:29	0°♄58'58	6.35509 AU	evening set	2757 Feb 15 20:21	6°♄47'00	
morning rise	2750 Sep 06 07:54	3°♄45'19					
retrograde	2751 Jan 06 07:34	21°♄02'00		conjunction	2757 Feb 28 18:19	9°♄53'00	0°-49'-39
opposition	2751 Mar 07 10:53	16°♄04'18	1°18'38	minimum elong	2757 Feb 28 18:17	9°♄52'58	0°49'40
min. Earth dist.	2751 Mar 07 08:43	16°♄05'01	4.40741 AU	max. Earth dist.	2757 Feb 28 09:59	9°♄47'59	6.00529 AU
direct	2751 May 08 01:16	11°♄01'34		morning rise	2757 Mar 13 18:14	13°♄00'16	
evening set	2751 Sep 11 17:02	28°♄38'32			2757 Jun 06 09:29	0°♄	
	2751 Sep 18 00:34	0°♄		retrograde	2757 Jul 23 00:34	3°♄18'25	
					2757 Sep 08 03:37	30°♄♄	
conjunction	2751 Sep 24 21:37	1°♄29'06	1°01'16	opposition	2757 Sep 21 02:15	28°♄19'01	-1°-29'-19
minimum elong	2751 Sep 24 21:36	1°♄29'05	1°01'16	min. Earth dist.	2757 Sep 20 20:05	28°♄21'04	3.96435 AU
max. Earth dist.	2751 Sep 24 09:58	1°♄22'49	6.44365 AU	direct	2757 Nov 18 15:13	23°♄25'22	
morning rise	2751 Oct 07 23:36	4°♄18'19			2758 Jan 23 04:53	0°♄	
retrograde	2752 Feb 05 07:29	21°♄04'48		evening set	2758 Mar 24 05:41	13°♄09'16	
opposition	2752 Apr 05 19:26	16°♄10'20	1°32'39				
min. Earth dist.	2752 Apr 06 11:35	16°♄05'06	4.46235 AU	conjunction	2758 Apr 06 10:38	16°♄21'14	-1°-3'00
direct	2752 Jun 07 06:36	11°♄07'44		minimum elong	2758 Apr 06 10:38	16°♄21'14	1°03'01
evening set	2752 Oct 11 16:32	28°♄34'37		max. Earth dist.	2758 Apr 07 11:12	16°♄36'09	5.94461 AU
	2752 Oct 18 07:10	0°♍		morning rise	2758 Apr 19 18:46	19°♄34'53	
max. Earth dist.	2752 Oct 23 04:10	1°♍03'16	6.46042 AU		2758 Jun 04 16:32	0°♄	
				retrograde	2758 Aug 30 05:47	10°♄18'27	
conjunction	2752 Oct 24 14:42	1°♍21'58	1°02'23	opposition	2758 Oct 28 23:47	5°♄15'17	-1°-30'-41
minimum elong	2752 Oct 24 14:43	1°♍21'58	1°02'22	min. Earth dist.	2758 Oct 27 20:54	5°♄24'23	3.95022 AU
morning rise	2752 Nov 06 10:00	4°♍08'02		direct	2758 Dec 25 20:44	0°♄20'44	
	2752 Dec 31 19:22	15°♍			2759 Apr 09 03:39	15°♄	
retrograde	2753 Mar 06 14:36	20°♍53'04		evening set	2759 Apr 30 19:10	20°♄03'39	

conjunction	2759 May 14 08:10	23°♄17'48	0°-51'-31	min. Earth dist.	2765 May 12 02:12	20°♄10'19	4.43005 AU
minimum elong	2759 May 14 08:13	23°♄17'49	0°51'33	direct	2765 Jul 12 12:10	15°♄19'15	
max. Earth dist.	2759 May 16 11:22	23°♄48'26	5.97772 AU		2765 Nov 01 20:11	0°♄	
morning rise	2759 May 27 23:49	26°♄33'13		evening set	2765 Nov 15 11:36	2°♄57'02	
	2759 Jun 11 16:59	0°♄		max. Earth dist.	2765 Nov 26 03:47	5°♄18'04	6.38710 AU
retrograde	2759 Oct 06 03:55	16°♄49'33					
min. Earth dist.	2759 Dec 03 05:36	11°♄56'33	4.02691 AU	conjunction	2765 Nov 28 05:11	5°♄45'23	0°43'15
opposition	2759 Dec 04 16:49	11°♄44'33	0°-56'-4	minimum elong	2765 Nov 28 05:13	5°♄45'23	0°43'15
direct	2760 Jan 31 20:41	6°♄47'23		morning rise	2765 Dec 10 20:39	8°♄32'56	
evening set	2760 Jun 06 03:20	26°♄02'54		retrograde	2766 Apr 11 19:19	25°♄51'41	
				opposition	2766 Jun 11 17:42	20°♄59'41	0°42'50
conjunction	2760 Jun 19 21:00	29°♄13'59	0°-20'-32	min. Earth dist.	2766 Jun 13 06:42	20°♄47'54	4.33061 AU
minimum elong	2760 Jun 19 21:02	29°♄14'00	0°20'34	direct	2766 Aug 12 23:48	16°♄00'21	
max. Earth dist.	2760 Jun 22 04:57	29°♄46'27	6.09036 AU		2766 Nov 28 04:17	0°♄	
	2760 Jun 23 04:19	0°♄		evening set	2766 Dec 16 14:18	4°♄04'41	
morning rise	2760 Jul 03 16:02	2°♄25'28		max. Earth dist.	2766 Dec 27 04:52	6°♄29'07	6.26289 AU
retrograde	2760 Nov 08 14:43	21°♄38'12					
min. Earth dist.	2761 Jan 05 22:13	16°♄45'04	4.16258 AU	conjunction	2766 Dec 29 06:35	6°♄57'25	0°12'33
opposition	2761 Jan 07 06:20	16°♄34'10	0°-2'-42	minimum elong	2766 Dec 29 06:35	6°♄57'25	0°12'34
asc. node	2761 Jan 26 19:32	14°♄02'53		behind sun begin	2766 Dec 29 01:22	6°♄54'28	
direct	2761 Mar 07 09:17	11°♄34'06		behind sun end	2766 Dec 29 11:48	7°♄00'23	
	2761 Jul 11 06:39	0°♄		morning rise	2767 Jan 10 22:16	9°♄50'05	
evening set	2761 Jul 12 00:55	0°♄10'11		retrograde	2767 May 15 20:18	28°♄04'43	
				desc. node	2767 May 17 05:54	28°♄04'32	
conjunction	2761 Jul 25 17:31	3°♄14'15	0°16'27	opposition	2767 Jul 15 15:29	23°♄11'22	0°-8'-2
minimum elong	2761 Jul 25 17:30	3°♄14'15	0°16'27	min. Earth dist.	2767 Jul 16 22:47	23°♄01'19	4.18884 AU
max. Earth dist.	2761 Jul 27 08:57	3°♄36'23	6.23762 AU	direct	2767 Sep 14 19:46	18°♄14'24	
morning rise	2761 Aug 08 09:36	6°♄17'45			2767 Dec 18 05:36	0°♄	
	2761 Sep 18 16:23	15°♄		evening set	2768 Jan 18 04:01	6°♄57'09	
retrograde	2761 Dec 10 20:41	24°♄21'35					
opposition	2762 Feb 08 17:03	19°♄20'39	0°48'05	conjunction	2768 Jan 30 22:07	9°♄56'39	0°-23'-27
min. Earth dist.	2762 Feb 07 23:40	19°♄26'27	4.30755 AU	minimum elong	2768 Jan 30 22:06	9°♄56'39	0°23'28
	2762 Mar 20 08:53	15°♄		max. Earth dist.	2768 Jan 29 13:08	9°♄37'16	6.11568 AU
direct	2762 Apr 10 05:31	14°♄18'36		morning rise	2768 Feb 12 16:50	12°♄56'49	
	2762 May 01 06:25	15°♄			2768 Feb 21 12:51	15°♄	
	2762 Aug 04 06:20	0°♄			2768 May 11 23:09	0°♄	
evening set	2762 Aug 14 22:52	2°♄18'08		retrograde	2768 Jun 20 05:53	2°♄21'09	
					2768 Jul 29 19:28	30°♄	
conjunction	2762 Aug 28 09:51	5°♄14'17	0°46'36	opposition	2768 Aug 19 17:04	27°♄25'04	0°-59'-44
minimum elong	2762 Aug 28 09:49	5°♄14'15	0°46'36	min. Earth dist.	2768 Aug 20 06:58	27°♄20'32	4.04793 AU
max. Earth dist.	2762 Aug 28 23:24	5°♄21'41	6.36915 AU	direct	2768 Oct 18 09:47	22°♄30'27	
morning rise	2762 Sep 10 18:43	8°♄09'13			2768 Dec 28 20:03	0°♄	
retrograde	2763 Jan 10 10:35	25°♄20'51		evening set	2769 Feb 20 18:58	11°♄52'12	
opposition	2763 Mar 11 15:54	20°♄23'37	1°21'59				
min. Earth dist.	2763 Mar 11 15:52	20°♄23'38	4.41685 AU	conjunction	2769 Mar 05 17:35	14°♄59'01	0°-52'-50
direct	2763 May 12 08:48	15°♄20'51		minimum elong	2769 Mar 05 17:33	14°♄59'00	0°52'51
	2763 Sep 02 04:23	0°♄		max. Earth dist.	2769 Mar 05 12:37	14°♄56'02	5.99377 AU
evening set	2763 Sep 16 01:21	2°♄56'14		morning rise	2769 Mar 18 18:35	18°♄07'16	
					2769 May 11 08:25	0°♄	
conjunction	2763 Sep 29 05:02	5°♄46'16	1°02'26	retrograde	2769 Jul 28 06:44	8°♄31'08	
minimum elong	2763 Sep 29 05:01	5°♄46'15	1°02'25	opposition	2769 Sep 26 08:22	3°♄31'10	-1°-31'-48
max. Earth dist.	2763 Sep 28 14:11	5°♄38'15	6.44789 AU	min. Earth dist.	2769 Sep 25 22:48	3°♄34'21	3.95811 AU
morning rise	2763 Oct 12 05:57	8°♄34'55			2769 Oct 25 23:10	30°♄	
retrograde	2764 Feb 09 12:07	25°♄20'20		direct	2769 Nov 23 18:14	28°♄37'31	
opposition	2764 Apr 10 00:38	20°♄26'16	1°32'37		2769 Dec 22 09:47	0°♄	
min. Earth dist.	2764 Apr 10 19:22	20°♄20'13	4.46138 AU	evening set	2770 Mar 29 09:12	18°♄22'41	
direct	2764 Jun 11 14:13	15°♄23'49					
	2764 Oct 02 11:46	0°♄		conjunction	2770 Apr 11 15:24	21°♄35'13	-1°-2'-53
evening set	2764 Oct 15 22:57	2°♄51'34		minimum elong	2770 Apr 11 15:25	21°♄35'13	1°02'53
max. Earth dist.	2764 Oct 27 06:01	5°♄18'06	6.45426 AU	max. Earth dist.	2770 Apr 12 21:18	21°♄53'20	5.94429 AU
				morning rise	2770 Apr 25 00:29	24°♄49'21	
conjunction	2764 Oct 28 20:20	5°♄38'52	1°01'07		2770 May 16 23:44	0°♄	
minimum elong	2764 Oct 28 20:21	5°♄38'52	1°01'07		2770 Aug 17 09:53	15°♄	
morning rise	2764 Nov 10 15:10	8°♄24'58		retrograde	2770 Sep 04 12:08	15°♄32'02	
	2764 Dec 12 07:35	15°♄			2770 Sep 22 09:51	15°♄	
retrograde	2765 Mar 10 23:07	25°♄12'50		min. Earth dist.	2770 Nov 01 23:59	10°♄37'58	3.95592 AU
opposition	2765 May 10 18:12	20°♄20'33	1°18'45	opposition	2770 Nov 03 03:46	10°♄28'33	-1°-27'-45

direct	2770 Dec 31 01:09	5°♄33'44		morning rise	2776 Nov 14 21:04	12°♄45'35	
	2771 Mar 21 08:25	15°♄			2776 Nov 25 08:11	15°♄	
evening set	2771 May 06 00:04	25°♄14'21		retrograde	2777 Mar 15 07:06	29°♄34'57	
				opposition	2777 May 15 03:37	24°♄42'50	1°14'57
conjunction	2771 May 19 13:55	28°♄28'25	0°-48'-7	min. Earth dist.	2777 May 16 12:37	24°♄32'19	4.42415 AU
minimum elong	2771 May 19 13:57	28°♄28'26	0°48'07	direct	2777 Jul 16 22:00	19°♄41'49	
max. Earth dist.	2771 May 21 18:26	28°♄59'43	5.98873 AU		2777 Oct 15 17:48	0°♄	
	2771 May 25 23:39	0°♄		evening set	2777 Nov 19 18:35	7°♄20'43	
morning rise	2771 Jun 02 06:29	1°♄43'41		max. Earth dist.	2777 Nov 30 08:38	9°♄40'59	6.37807 AU
retrograde	2771 Oct 11 01:02	21°♄53'05					
min. Earth dist.	2771 Dec 08 02:30	17°♄00'24	4.04197 AU	conjunction	2777 Dec 02 11:36	10°♄09'13	0°39'39
opposition	2771 Dec 09 14:38	16°♄48'05	0°-49'-14	minimum elong	2777 Dec 02 11:38	10°♄09'14	0°39'39
direct	2772 Feb 05 19:32	11°♄50'32		morning rise	2777 Dec 15 02:59	12°♄57'04	
	2772 Jun 06 17:42	0°♄			2778 Apr 01 15:23	0°♄	
evening set	2772 Jun 11 05:11	1°♄01'37		retrograde	2778 Apr 16 08:16	0°♄20'12	
					2778 May 01 01:06	30°♄	
conjunction	2772 Jun 24 23:04	4°♄12'00	0°-15'-25	opposition	2778 Jun 16 07:02	25°♄28'03	0°36'30
minimum elong	2772 Jun 24 23:05	4°♄12'00	0°15'26	min. Earth dist.	2778 Jun 17 19:46	25°♄16'20	4.31884 AU
behind sun begin	2772 Jun 24 21:17	4°♄10'59		direct	2778 Aug 17 11:26	20°♄28'55	
behind sun end	2772 Jun 25 00:52	4°♄13'02			2778 Nov 10 18:09	0°♄	
max. Earth dist.	2772 Jun 27 04:41	4°♄42'59	6.10811 AU	evening set	2778 Dec 20 22:52	8°♄35'48	
morning rise	2772 Jul 08 18:06	7°♄22'39		max. Earth dist.	2778 Dec 31 16:01	11°♄02'05	6.24939 AU
retrograde	2772 Nov 13 06:12	26°♄26'24					
asc. node	2772 Dec 06 21:12	25°♄31'10		conjunction	2779 Jan 02 15:16	11°♄29'05	0°07'46
opposition	2773 Jan 11 21:32	21°♄22'43	0°04'58	minimum elong	2779 Jan 02 15:17	11°♄29'05	0°07'46
min. Earth dist.	2773 Jan 10 15:54	21°♄32'45	4.18101 AU	behind sun begin	2779 Jan 02 08:05	11°♄25'00	
direct	2773 Mar 12 05:46	16°♄22'19		behind sun end	2779 Jan 02 22:29	11°♄33'10	
	2773 Jun 24 09:57	0°♄		morning rise	2779 Jan 15 06:57	14°♄22'20	
evening set	2773 Jul 16 21:15	4°♄53'46		desc. node	2779 Mar 28 23:29	28°♄40'41	
					2779 Apr 07 21:27	0°♄	
conjunction	2773 Jul 30 13:27	7°♄56'53	0°21'19	retrograde	2779 May 20 14:31	2°♄43'41	
minimum elong	2773 Jul 30 13:26	7°♄56'52	0°21'18		2779 Jul 02 21:52	30°♄	
max. Earth dist.	2773 Aug 01 02:51	8°♄17'47	6.25535 AU	opposition	2779 Jul 20 09:49	27°♄50'02	0°-15'-20
morning rise	2773 Aug 13 04:40	10°♄59'16		min. Earth dist.	2779 Jul 21 15:37	27°♄40'28	4.17445 AU
	2773 Aug 31 14:38	15°♄		direct	2779 Sep 19 10:04	22°♄53'22	
retrograde	2773 Dec 15 04:44	28°♄55'26			2779 Nov 29 04:16	0°♄	
min. Earth dist.	2774 Feb 12 10:41	24°♄00'24	4.32332 AU	evening set	2780 Jan 22 16:52	11°♄39'33	
opposition	2774 Feb 13 02:42	23°♄55'04	0°54'05	max. Earth dist.	2780 Feb 03 03:43	14°♄21'14	6.10149 AU
direct	2774 Apr 14 18:22	18°♄52'54					
	2774 Jul 17 22:29	0°♄		conjunction	2780 Feb 04 11:08	14°♄39'46	0°-28'-3
evening set	2774 Aug 19 13:43	6°♄49'08		minimum elong	2780 Feb 04 11:07	14°♄39'45	0°28'03
					2780 Feb 05 21:27	15°♄	
conjunction	2774 Sep 01 23:38	9°♄44'21	0°49'48	morning rise	2780 Feb 17 06:33	17°♄40'48	
minimum elong	2774 Sep 01 23:36	9°♄44'19	0°49'48		2780 Apr 14 17:23	0°♄	
max. Earth dist.	2774 Sep 02 08:31	9°♄49'11	6.38192 AU	retrograde	2780 Jun 25 05:22	7°♄12'40	
morning rise	2774 Sep 15 07:29	12°♄38'20		opposition	2780 Aug 24 15:58	2°♄16'02	-1°-5'-33
retrograde	2775 Jan 14 17:53	29°♄45'18		min. Earth dist.	2780 Aug 25 03:13	2°♄12'21	4.03514 AU
opposition	2775 Mar 15 23:08	24°♄48'38	1°24'57		2780 Sep 11 16:57	30°♄	
min. Earth dist.	2775 Mar 16 02:16	24°♄47'36	4.42611 AU	direct	2780 Oct 23 04:31	27°♄21'32	
direct	2775 May 16 20:38	19°♄45'53			2780 Dec 02 21:44	0°♄	
	2775 Aug 15 17:50	0°♄		evening set	2781 Feb 25 13:22	16°♄46'42	
evening set	2775 Sep 20 11:28	7°♄19'32					
				conjunction	2781 Mar 10 12:58	19°♄54'21	0°-55'-29
conjunction	2775 Oct 03 14:15	10°♄09'01	1°03'18	minimum elong	2781 Mar 10 12:56	19°♄54'20	0°55'30
minimum elong	2775 Oct 03 14:14	10°♄09'00	1°03'17	max. Earth dist.	2781 Mar 10 12:50	19°♄54'17	5.98365 AU
max. Earth dist.	2775 Oct 02 20:33	9°♄59'27	6.45311 AU	morning rise	2781 Mar 23 14:46	23°♄03'26	
morning rise	2775 Oct 16 14:11	12°♄57'06			2781 Apr 22 11:24	0°♄	
retrograde	2776 Feb 13 17:15	29°♄41'04		retrograde	2781 Aug 02 10:32	13°♄32'23	
opposition	2776 Apr 14 07:52	24°♄47'20	1°32'07	opposition	2781 Oct 01 09:31	8°♄31'56	-1°-33'-30
min. Earth dist.	2776 Apr 15 03:33	24°♄40'59	4.46276 AU	min. Earth dist.	2781 Sep 30 22:34	8°♄35'36	3.95192 AU
direct	2776 Jun 15 22:19	19°♄45'02		direct	2781 Nov 28 16:59	3°♄38'14	
	2776 Sep 15 05:41	0°♄		evening set	2782 Apr 03 08:44	23°♄25'03	
evening set	2776 Oct 20 06:21	7°♄12'33					
max. Earth dist.	2776 Oct 31 12:11	9°♄38'33	6.45190 AU	conjunction	2782 Apr 16 15:57	26°♄38'10	-1°-2'-19
				minimum elong	2782 Apr 16 15:58	26°♄38'11	1°02'20
conjunction	2776 Nov 02 03:02	9°♄59'39	0°59'33	max. Earth dist.	2782 Apr 17 23:51	26°♄57'30	5.94246 AU
minimum elong	2776 Nov 02 03:03	9°♄59'40	0°59'33	morning rise	2782 Apr 30 02:22	29°♄52'57	

	2782 Apr 30 14:06	0°♄		max. Earth dist.	2787 Oct 07 00:48	14°♊17'11	6.45826 AU
	2782 Jul 10 04:05	15°♄		morning rise	2787 Oct 20 21:10	17°♊16'13	
retrograde	2782 Sep 09 12:14	20°♄35'25			2787 Dec 27 15:49	0°♋	
min. Earth dist.	2782 Nov 06 21:25	15°♄41'48	3.95890 AU	retrograde	2788 Feb 17 23:33	3°♋58'48	
opposition	2782 Nov 08 03:26	15°♄31'37	-1°-24'-20		2788 Apr 11 11:14	30°♋♌	
	2782 Nov 12 00:50	15°♋♌		opposition	2788 Apr 18 14:25	29°♌05'22	1°31'04
direct	2783 Jan 04 23:02	10°♋36'30		min. Earth dist.	2788 Apr 19 13:00	28°♌58'06	4.46320 AU
	2783 Feb 26 11:39	15°♌		direct	2788 Jun 20 07:36	24°♌03'10	
	2783 May 09 22:15	0°♍			2788 Aug 26 07:53	0°♍	
evening set	2783 May 11 01:39	0°♍16'12		evening set	2788 Oct 24 12:34	11°♍30'42	
				max. Earth dist.	2788 Nov 04 14:57	13°♍55'04	6.44724 AU
conjunction	2783 May 24 16:26	3°♍30'20	0°-44'-29				
minimum elong	2783 May 24 16:28	3°♍30'21	0°44'30	conjunction	2788 Nov 06 08:36	14°♍17'43	0°57'39
max. Earth dist.	2783 May 26 21:28	4°♍01'54	5.99628 AU	minimum elong	2788 Nov 06 08:38	14°♍17'44	0°57'38
morning rise	2783 Jun 07 09:46	6°♍45'35			2788 Nov 09 14:20	15°♍	
retrograde	2783 Oct 15 21:18	26°♍49'41		morning rise	2788 Nov 19 02:05	17°♍03'37	
min. Earth dist.	2783 Dec 12 22:48	21°♍56'43	4.05309 AU		2789 Jan 26 14:58	0°♎	
opposition	2783 Dec 14 10:00	21°♍44'42	0°-42'-20	retrograde	2789 Mar 19 15:01	3°♎55'33	
direct	2784 Feb 10 17:55	16°♍46'44			2789 May 12 02:17	30°♎♏	
	2784 May 20 18:47	0°♏		opposition	2789 May 19 12:48	29°♏03'29	1°10'41
evening set	2784 Jun 16 05:10	5°♏54'51		min. Earth dist.	2789 May 20 22:23	28°♏52'46	4.41448 AU
				direct	2789 Jul 21 05:35	24°♏02'40	
conjunction	2784 Jun 29 23:24	9°♏04'44	0°-10'-20		2789 Sep 25 20:03	0°♏	
minimum elong	2784 Jun 29 23:24	9°♏04'45	0°10'21	evening set	2789 Nov 24 01:07	11°♏44'07	
behind sun begin	2784 Jun 29 16:52	9°♏01'00		max. Earth dist.	2789 Dec 04 15:40	14°♏05'05	6.36405 AU
behind sun end	2784 Jun 30 05:57	9°♏08'30					
max. Earth dist.	2784 Jul 02 05:25	9°♏35'51	6.12207 AU	conjunction	2789 Dec 06 17:57	14°♏33'03	0°35'45
morning rise	2784 Jul 13 18:16	12°♏14'42		minimum elong	2789 Dec 06 17:59	14°♏33'04	0°35'46
asc. node	2784 Oct 18 00:14	29°♏39'50		morning rise	2789 Dec 19 09:02	17°♏21'23	
	2784 Oct 21 18:04	0°♐			2790 Feb 21 17:51	0°♑	
retrograde	2784 Nov 17 19:53	1°♐10'44		retrograde	2790 Apr 20 23:04	4°♑50'58	
	2784 Dec 14 15:54	30°♑♒		opposition	2790 Jun 20 21:41	29°♑58'46	0°29'48
min. Earth dist.	2785 Jan 15 06:12	26°♑17'17	4.19644 AU		2790 Jun 20 17:48	30°♑♒	
opposition	2785 Jan 16 11:20	26°♑07'26	0°12'24	min. Earth dist.	2790 Jun 22 10:48	29°♑46'56	4.30107 AU
direct	2785 Mar 16 22:31	21°♑06'45		direct	2790 Aug 21 23:24	25°♑00'00	
	2785 Jun 05 21:28	0°♐			2790 Oct 20 11:26	0°♑	
evening set	2785 Jul 21 16:52	9°♐34'29		evening set	2790 Dec 25 09:23	13°♑11'40	
				max. Earth dist.	2791 Jan 05 02:13	15°♑38'31	6.22923 AU
conjunction	2785 Aug 04 08:19	12°♐36'39	0°25'56				
minimum elong	2785 Aug 04 08:17	12°♐36'38	0°25'56	conjunction	2791 Jan 07 01:46	16°♑05'47	0°02'47
max. Earth dist.	2785 Aug 05 17:38	12°♐55'12	6.27101 AU	minimum elong	2791 Jan 07 01:44	16°♑05'47	0°02'47
	2785 Aug 15 02:07	15°♐		behind sun begin	2791 Jan 06 17:47	16°♑01'14	
morning rise	2785 Aug 17 22:54	15°♐38'02		behind sun end	2791 Jan 07 09:42	16°♑10'19	
	2785 Nov 01 17:10	0°♑		morning rise	2791 Jan 19 17:53	19°♑00'01	
retrograde	2785 Dec 19 14:04	3°♑27'11		desc. node	2791 Feb 06 01:32	22°♑53'41	
	2786 Feb 05 16:39	30°♑♒			2791 Mar 12 21:38	0°♒	
opposition	2786 Feb 17 12:12	28°♑27'15	0°59'39	retrograde	2791 May 25 13:05	7°♒30'53	
min. Earth dist.	2786 Feb 16 22:52	28°♑31'41	4.33795 AU	opposition	2791 Jul 25 07:27	2°♒36'54	0°-22'-51
direct	2786 Apr 19 08:56	23°♑24'54		min. Earth dist.	2791 Jul 26 11:08	2°♒27'59	4.15324 AU
	2786 Jun 28 01:32	0°♑			2791 Aug 15 17:18	30°♑♒	
evening set	2786 Aug 24 03:22	11°♑17'41		direct	2791 Sep 24 02:32	27°♒40'32	
					2791 Nov 01 22:41	0°♒	
conjunction	2786 Sep 06 12:28	14°♑12'02	0°52'39		2792 Jan 20 19:03	15°♒	
minimum elong	2786 Sep 06 12:26	14°♑12'01	0°52'38	evening set	2792 Jan 27 09:55	16°♒32'52	
max. Earth dist.	2786 Sep 06 19:37	14°♑15'55	6.39432 AU	max. Earth dist.	2792 Feb 08 02:00	19°♒18'15	6.08123 AU
morning rise	2786 Sep 19 19:04	17°♑05'02					
	2786 Nov 26 22:07	0°♓		conjunction	2792 Feb 09 04:54	19°♒34'12	0°-32'-40
retrograde	2787 Jan 18 22:11	4°♓07'20		minimum elong	2792 Feb 09 04:52	19°♒34'11	0°32'41
	2787 Mar 13 23:12	30°♑♒		morning rise	2792 Feb 22 00:53	22°♒36'24	
opposition	2787 Mar 20 05:49	29°♑11'03	1°27'24		2792 Mar 25 13:40	0°♓	
min. Earth dist.	2787 Mar 20 10:05	29°♑09'40	4.43539 AU	retrograde	2792 Jun 30 12:14	12°♓18'10	
direct	2787 May 21 05:26	24°♑08'20		opposition	2792 Aug 29 20:26	7°♓21'07	-1°-11'-15
	2787 Jul 26 12:18	0°♓		min. Earth dist.	2792 Aug 30 05:37	7°♓18'06	4.01778 AU
evening set	2787 Sep 24 20:29	11°♓39'52		direct	2792 Oct 28 04:33	2°♓26'52	
				evening set	2793 Mar 02 14:06	21°♓57'07	
conjunction	2787 Oct 07 22:09	14°♓28'43	1°03'47				
minimum elong	2787 Oct 07 22:09	14°♓28'42	1°03'47	conjunction	2793 Mar 15 14:31	25°♓05'47	0°-57'-53

minimum elong	2793 Mar 15 14:30	25° ✕ 05'46	0°57'53	minimum elong	2798 Sep 10 22:27	18° ♄ 33'46	0°55'08
max. Earth dist.	2793 Mar 15 17:43	25° ✕ 07'43	5.97073 AU	max. Earth dist.	2798 Sep 10 23:53	18° ♄ 34'33	6.41038 AU
morning rise	2793 Mar 28 17:38	28° ✕ 16'01		morning rise	2798 Sep 24 04:04	21° ♄ 25'41	
	2793 Apr 04 23:35	0° ♄			2798 Nov 05 07:08	0° ♄	
retrograde	2793 Aug 07 18:54	18° ♄ 50'48		retrograde	2799 Jan 23 01:53	8° ♄ 22'33	
opposition	2793 Oct 06 17:02	13° ♄ 49'52	-1°-34'-34	opposition	2799 Mar 24 09:55	3° ♄ 26'40	1°29'16
min. Earth dist.	2793 Oct 06 02:01	13° ♄ 54'53	3.94521 AU	min. Earth dist.	2799 Mar 24 17:52	3° ♄ 24'05	4.44625 AU
direct	2793 Dec 03 20:38	8° ♄ 56'07			2799 Apr 22 16:24	30° ♄	
evening set	2794 Apr 08 15:06	28° ♄ 44'36		direct	2799 May 25 13:41	28° ♄ 23'51	
	2794 Apr 13 20:08	0° ♄			2799 Jun 27 18:57	0° ♄	
				evening set	2799 Sep 29 02:05	15° ♄ 52'57	
conjunction	2794 Apr 21 23:32	1° ♄ 58'16	-1°-1'-12	max. Earth dist.	2799 Oct 11 02:46	18° ♄ 28'12	6.46295 AU
minimum elong	2794 Apr 21 23:34	1° ♄ 58'17	1°01'13				
max. Earth dist.	2794 Apr 23 11:44	2° ♄ 20'11	5.94271 AU	conjunction	2799 Oct 12 03:00	18° ♄ 41'16	1°03'54
morning rise	2794 May 05 11:03	5° ♄ 13'33		minimum elong	2799 Oct 12 03:00	18° ♄ 41'16	1°03'55
	2794 Jun 17 09:14	15° ♄		morning rise	2799 Oct 25 00:58	21° ♄ 28'13	
retrograde	2794 Sep 14 18:15	25° ♄ 54'17			2799 Dec 06 04:58	0° ♄	
min. Earth dist.	2794 Nov 12 01:26	21° ♄ 00'46	3.96621 AU	retrograde	2800 Feb 22 01:29	8° ♄ 09'57	
opposition	2794 Nov 13 08:40	20° ♄ 50'09	-1°-20'-2	opposition	2800 Apr 22 18:27	3° ♄ 16'44	1°29'36
direct	2795 Jan 10 05:17	15° ♄ 54'43		min. Earth dist.	2800 Apr 23 18:33	3° ♄ 09'00	4.46153 AU
	2795 Apr 22 10:42	0° ♄			2800 May 20 16:40	30° ♄	
evening set	2795 May 16 08:45	5° ♄ 31'31		direct	2800 Jun 24 11:26	28° ♄ 14'38	
					2800 Jul 29 12:08	0° ♄	
conjunction	2795 May 30 00:27	8° ♄ 45'25	0°-40'-20		2800 Oct 25 08:32	15° ♄	
minimum elong	2795 May 30 00:30	8° ♄ 45'26	0°40'21	evening set	2800 Oct 28 16:16	15° ♄ 42'57	
max. Earth dist.	2795 Jun 01 08:42	9° ♄ 18'44	6.01022 AU	max. Earth dist.	2800 Nov 08 15:23	18° ♄ 05'53	6.43916 AU
morning rise	2795 Jun 12 18:19	12° ♄ 00'14					
	2795 Sep 16 00:35	0° ♄		conjunction	2800 Nov 10 11:38	18° ♄ 30'01	0°55'29
retrograde	2795 Oct 20 19:55	1° ♄ 55'40		minimum elong	2800 Nov 10 11:39	18° ♄ 30'02	0°55'29
	2795 Nov 24 08:11	30° ♄		morning rise	2800 Nov 23 04:39	21° ♄ 16'03	
min. Earth dist.	2795 Dec 17 20:34	27° ♄ 02'59	4.07219 AU		2801 Jan 04 22:20	0° ♄	
opposition	2795 Dec 19 08:24	26° ♄ 50'47	0°-34'-52	retrograde	2801 Mar 23 23:31	8° ♄ 11'52	
direct	2796 Feb 15 19:10	21° ♄ 52'25		opposition	2801 May 23 20:37	3° ♄ 19'54	1°06'08
	2796 May 01 02:42	0° ♄		min. Earth dist.	2801 May 25 08:40	3° ♄ 08'25	4.40031 AU
evening set	2796 Jun 21 07:42	10° ♄ 54'26			2801 Jun 21 13:01	30° ♄	
				direct	2801 Jul 25 13:02	28° ♄ 19'15	
conjunction	2796 Jul 05 01:42	14° ♄ 03'14	0°-5'-5		2801 Aug 28 11:59	0° ♄	
minimum elong	2796 Jul 05 01:41	14° ♄ 03'14	0°05'06	evening set	2801 Nov 28 06:44	16° ♄ 04'47	
behind sun begin	2796 Jul 04 17:34	13° ♄ 58'36		max. Earth dist.	2801 Dec 08 19:04	18° ♄ 25'12	6.34475 AU
behind sun end	2796 Jul 05 09:49	14° ♄ 07'52					
max. Earth dist.	2796 Jul 07 05:05	14° ♄ 32'40	6.14455 AU	conjunction	2801 Dec 10 23:23	18° ♄ 54'25	0°31'43
morning rise	2796 Jul 18 20:23	17° ♄ 12'01		minimum elong	2801 Dec 10 23:25	18° ♄ 54'25	0°31'43
asc. node	2796 Aug 27 22:44	25° ♄ 51'28		morning rise	2801 Dec 23 14:34	21° ♄ 43'32	
	2796 Sep 19 09:35	0° ♄			2802 Jan 31 18:31	0° ♄	
retrograde	2796 Nov 22 08:51	5° ♄ 57'10		retrograde	2802 Apr 25 14:08	9° ♄ 21'30	
min. Earth dist.	2797 Jan 19 22:20	1° ♄ 03'25	4.22004 AU	opposition	2802 Jun 25 12:21	4° ♄ 29'07	0°22'58
opposition	2797 Jan 21 01:43	0° ♄ 54'09	0°19'48	min. Earth dist.	2802 Jun 27 00:30	4° ♄ 17'34	4.27782 AU
	2797 Jan 27 19:00	30° ♄			2802 Aug 08 13:27	30° ♄	
direct	2797 Mar 21 18:14	25° ♄ 53'06		direct	2802 Aug 26 09:17	29° ♄ 30'36	
	2797 May 13 13:42	0° ♄			2802 Sep 13 06:17	0° ♄	
evening set	2797 Jul 26 11:31	14° ♄ 14'10		desc. node	2802 Dec 17 13:37	15° ♄ 02'19	
	2797 Jul 29 22:35	15° ♄		evening set	2802 Dec 29 20:34	17° ♄ 49'05	
				max. Earth dist.	2803 Jan 09 16:36	20° ♄ 18'33	6.20398 AU
conjunction	2797 Aug 09 02:19	17° ♄ 15'01	0°30'23				
minimum elong	2797 Aug 09 02:18	17° ♄ 15'00	0°30'24	conjunction	2803 Jan 11 13:18	20° ♄ 44'21	0°-2'-19
max. Earth dist.	2797 Aug 10 09:40	17° ♄ 32'24	6.29389 AU	minimum elong	2803 Jan 11 13:18	20° ♄ 44'21	0°02'20
morning rise	2797 Aug 22 15:40	20° ♄ 14'56		behind sun begin	2803 Jan 11 05:19	20° ♄ 39'46	
	2797 Oct 09 02:24	0° ♄		behind sun end	2803 Jan 11 21:17	20° ♄ 48'56	
retrograde	2797 Dec 23 20:01	7° ♄ 54'52		morning rise	2803 Jan 24 05:47	23° ♄ 39'49	
opposition	2798 Feb 21 19:51	2° ♄ 55'26	1°04'44		2803 Feb 21 16:33	0° ♄	
min. Earth dist.	2798 Feb 21 08:25	2° ♄ 59'14	4.35829 AU	retrograde	2803 May 30 15:34	12° ♄ 22'09	
	2798 Mar 17 10:28	30° ♄		opposition	2803 Jul 30 07:16	7° ♄ 27'52	0°-30'-18
direct	2798 Apr 23 20:37	27° ♄ 52'56		min. Earth dist.	2803 Jul 31 09:42	7° ♄ 19'20	4.12790 AU
	2798 May 31 18:12	0° ♄		direct	2803 Sep 28 21:28	2° ♄ 31'52	
evening set	2798 Aug 28 14:39	15° ♄ 40'34			2804 Jan 03 16:17	15° ♄	
				evening set	2804 Feb 01 05:30	21° ♄ 31'45	
conjunction	2798 Sep 10 22:29	18° ♄ 33'47	0°55'08	max. Earth dist.	2804 Feb 13 00:54	24° ♄ 20'00	6.05808 AU

conjunction	2804 Feb 14 01:03	24° \approx 34'22	0°-37'-6	morning rise	2809 Aug 27 07:53	24° Ω 50'18	
minimum elong	2804 Feb 14 01:01	24° \approx 34'21	0°37'08		2809 Sep 20 11:36	0° η	
morning rise	2804 Feb 26 22:06	27° \approx 38'00		retrograde	2809 Dec 28 02:26	12° η 22'15	
	2804 Mar 07 23:50	0° \mathcal{H}		opposition	2810 Feb 26 03:33	7° η 23'20	1°09'32
retrograde	2804 Jul 05 20:22	17° \mathcal{H} 30'40		min. Earth dist.	2810 Feb 25 19:00	7° η 26'10	4.37563 AU
opposition	2804 Sep 04 03:48	12° \mathcal{H} 33'05	-1°-16'-28	direct	2810 Apr 28 08:25	2° η 20'44	
min. Earth dist.	2804 Sep 04 08:23	12° \mathcal{H} 31'35	3.99935 AU	evening set	2810 Sep 02 01:43	20° η 04'28	
direct	2804 Nov 02 05:52	7° \mathcal{H} 39'05					
evening set	2805 Mar 07 18:16	27° \mathcal{H} 14'42		conjunction	2810 Sep 15 08:41	22° η 56'47	0°57'22
	2805 Mar 19 03:33	0° Υ		minimum elong	2810 Sep 15 08:39	22° η 56'47	0°57'22
				max. Earth dist.	2810 Sep 15 07:04	22° η 55'55	6.42285 AU
conjunction	2805 Mar 20 19:50	0° Υ 24'26	0°-59'-49	morning rise	2810 Sep 28 12:58	25° η 47'45	
minimum elong	2805 Mar 20 19:48	0° Υ 24'25	0°59'50		2810 Oct 18 11:10	0° Ω	
max. Earth dist.	2805 Mar 21 05:16	0° Υ 30'09	5.95885 AU	retrograde	2811 Jan 27 05:35	12° Ω 40'42	
morning rise	2805 Apr 03 00:02	3° Υ 35'43		opposition	2811 Mar 28 15:13	7° Ω 45'19	1°30'46
retrograde	2805 Aug 13 07:17	24° Υ 15'24		min. Earth dist.	2811 Mar 29 01:25	7° Ω 42'00	4.45326 AU
min. Earth dist.	2805 Oct 11 09:23	19° Υ 19'49	3.94135 AU	direct	2811 May 29 20:59	2° Ω 42'37	
opposition	2805 Oct 12 03:05	19° Υ 13'52	-1°-34'-48	evening set	2811 Oct 03 09:11	20° Ω 10'33	
direct	2805 Dec 09 05:01	14° Υ 20'01		max. Earth dist.	2811 Oct 15 03:57	22° Ω 42'45	6.46389 AU
	2806 Mar 27 12:11	0° \mathcal{B}					
evening set	2806 Apr 14 00:00	4° \mathcal{B} 08'47		conjunction	2811 Oct 16 09:04	22° Ω 58'28	1°03'43
				minimum elong	2811 Oct 16 09:04	22° Ω 58'28	1°03'43
conjunction	2806 Apr 27 09:41	7° \mathcal{B} 22'49	0°-59'-33	morning rise	2811 Oct 29 06:21	25° Ω 45'06	
minimum elong	2806 Apr 27 09:42	7° \mathcal{B} 22'50	0°59'33		2811 Nov 18 10:47	0° \mathcal{M}	
max. Earth dist.	2806 Apr 29 03:24	7° \mathcal{B} 48'01	5.94710 AU	retrograde	2812 Feb 26 08:31	12° \mathcal{M} 27'16	
morning rise	2806 May 10 22:18	10° \mathcal{B} 38'23		opposition	2812 Apr 27 00:58	7° \mathcal{M} 34'21	1°27'40
	2806 May 29 10:14	15° \mathcal{B}		min. Earth dist.	2812 Apr 28 04:12	7° \mathcal{M} 25'37	4.45649 AU
	2806 Aug 23 05:46	0° Π		direct	2812 Jun 28 19:19	2° \mathcal{M} 32'22	
retrograde	2806 Sep 20 00:56	1° Π 14'56			2812 Oct 09 01:02	15° \mathcal{M}	
	2806 Oct 17 14:37	30° \mathcal{R} \mathcal{B}		evening set	2812 Nov 01 22:15	20° \mathcal{M} 02'27	
min. Earth dist.	2806 Nov 17 05:23	26° \mathcal{B} 21'50	3.97831 AU	max. Earth dist.	2812 Nov 12 19:23	22° \mathcal{M} 24'41	6.42848 AU
opposition	2806 Nov 18 14:40	26° \mathcal{B} 10'31	-1°-14'-59				
direct	2807 Jan 15 11:22	21° \mathcal{B} 14'45		conjunction	2812 Nov 14 17:15	22° \mathcal{M} 49'46	0°52'58
	2807 Apr 02 18:55	0° Π		minimum elong	2812 Nov 14 17:17	22° \mathcal{M} 49'47	0°52'58
evening set	2807 May 21 16:28	10° Π 46'51		morning rise	2812 Nov 27 09:47	25° \mathcal{M} 36'04	
					2812 Dec 18 00:56	0° \mathcal{J}	
conjunction	2807 Jun 04 08:38	14° Π 00'09	0°-35'-50	retrograde	2813 Mar 28 09:37	12° \mathcal{J} 36'38	
minimum elong	2807 Jun 04 08:40	14° Π 00'10	0°35'51	opposition	2813 May 28 07:36	7° \mathcal{J} 44'42	1°01'05
max. Earth dist.	2807 Jun 06 16:35	14° Π 33'08	6.02839 AU	min. Earth dist.	2813 May 29 19:31	7° \mathcal{J} 33'15	4.38467 AU
morning rise	2807 Jun 18 03:06	17° Π 14'19		direct	2813 Jul 29 20:51	2° \mathcal{J} 44'20	
	2807 Aug 17 02:08	0° \mathcal{E}		evening set	2813 Dec 02 15:11	20° \mathcal{J} 34'16	
retrograde	2807 Oct 25 16:26	6° \mathcal{E} 59'40		max. Earth dist.	2813 Dec 13 03:56	22° \mathcal{J} 55'32	6.32539 AU
min. Earth dist.	2807 Dec 22 18:38	2° \mathcal{E} 06'58	4.09411 AU				
opposition	2807 Dec 24 06:09	1° \mathcal{E} 54'52	0°-27'-9	conjunction	2813 Dec 15 07:41	23° \mathcal{J} 24'35	0°27'22
	2808 Jan 07 17:14	30° \mathcal{R} Π		minimum elong	2813 Dec 15 07:42	23° \mathcal{J} 24'36	0°27'21
direct	2808 Feb 20 20:57	26° Π 56'04		morning rise	2813 Dec 27 22:54	26° \mathcal{J} 14'31	
	2808 Apr 05 01:49	0° \mathcal{E}			2814 Jan 14 00:58	0° \mathcal{Z}	
evening set	2808 Jun 26 09:20	15° \mathcal{E} 51'22		retrograde	2814 Apr 30 10:13	14° \mathcal{Z} 01'01	
asc. node	2808 Jul 07 06:12	18° \mathcal{E} 19'41		opposition	2814 Jun 30 06:45	9° \mathcal{Z} 08'29	0°15'43
				min. Earth dist.	2814 Jul 01 19:01	8° \mathcal{Z} 56'54	4.25587 AU
conjunction	2808 Jul 10 03:18	18° \mathcal{E} 59'03	0°00'17	direct	2814 Aug 31 00:31	4° \mathcal{Z} 10'21	
minimum elong	2808 Jul 10 03:16	18° \mathcal{E} 59'03	0°00'16	desc. node	2814 Oct 26 20:00	8° \mathcal{Z} 49'00	
behind sun begin	2808 Jul 09 18:57	18° \mathcal{E} 54'19		evening set	2815 Jan 03 10:42	22° \mathcal{Z} 34'56	
behind sun end	2808 Jul 10 11:36	19° \mathcal{E} 03'46		max. Earth dist.	2815 Jan 14 08:19	25° \mathcal{Z} 06'06	6.18146 AU
max. Earth dist.	2808 Jul 12 05:25	19° \mathcal{E} 27'37	6.16838 AU				
morning rise	2808 Jul 23 21:19	22° \mathcal{E} 06'30		conjunction	2815 Jan 16 03:40	25° \mathcal{Z} 31'14	0°-7'-28
	2808 Aug 29 09:41	0° Ω		minimum elong	2815 Jan 16 03:39	25° \mathcal{Z} 31'14	0°07'29
retrograde	2808 Nov 26 22:03	10° Ω 40'51		behind sun begin	2815 Jan 15 20:20	25° \mathcal{Z} 27'01	
opposition	2809 Jan 25 15:10	5° Ω 38'21	0°27'03	behind sun end	2815 Jan 16 10:57	25° \mathcal{Z} 35'26	
min. Earth dist.	2809 Jan 24 13:58	5° Ω 46'50	4.24341 AU	morning rise	2815 Jan 28 20:41	28° \mathcal{Z} 27'51	
direct	2809 Mar 26 12:20	0° Ω 37'05			2815 Feb 04 13:12	0° \approx	
	2809 Jul 13 08:13	15° Ω			2815 Apr 26 10:41	15° \approx	
evening set	2809 Jul 31 05:36	18° Ω 52'04		retrograde	2815 Jun 04 17:26	17° \approx 20'34	
					2815 Jul 14 10:24	15° \mathcal{R} \approx	
conjunction	2809 Aug 13 19:26	21° Ω 51'40	0°34'40	opposition	2815 Aug 04 09:23	12° \approx 25'53	0°-37'-45
minimum elong	2809 Aug 13 19:24	21° Ω 51'39	0°34'40	min. Earth dist.	2815 Aug 05 08:02	12° \approx 18'33	4.10691 AU
max. Earth dist.	2809 Aug 14 21:44	22° Ω 06'11	6.31491 AU	direct	2815 Oct 03 17:40	7° \approx 30'16	

	2815 Dec 14 21:08	15°♊		conjunction	2821 Aug 18 09:17	26°♏19'56	0°38'38
evening set	2816 Feb 06 03:06	26°♊35'59		minimum elong	2821 Aug 18 09:15	26°♏19'55	0°38'37
				max. Earth dist.	2821 Aug 19 07:32	26°♏32'11	6.33203 AU
conjunction	2816 Feb 18 23:20	29°♊39'39	0°-41'-21	morning rise	2821 Aug 31 20:37	29°♏17'24	
minimum elong	2816 Feb 18 23:18	29°♊39'38	0°41'23		2821 Sep 04 02:52	0°♐	
max. Earth dist.	2816 Feb 18 04:36	29°♊28'28	6.04072 AU	retrograde	2822 Jan 01 07:34	16°♐42'56	
	2816 Feb 20 09:23	0°♋		opposition	2822 Mar 02 09:06	11°♐44'36	1°13'49
morning rise	2816 Mar 02 21:08	2°♋44'24		min. Earth dist.	2822 Mar 02 03:44	11°♐46'22	4.38855 AU
retrograde	2816 Jul 11 06:37	22°♋45'23		direct	2822 May 02 18:14	6°♐41'58	
opposition	2816 Sep 09 11:39	17°♋47'13	-1°-21'-8	evening set	2822 Sep 06 11:10	24°♐23'15	
min. Earth dist.	2816 Sep 09 13:22	17°♋46'39	3.98757 AU				
direct	2816 Nov 07 10:49	12°♋53'21		conjunction	2822 Sep 19 17:05	27°♐14'53	0°59'15
	2817 Mar 02 08:34	0°♑		minimum elong	2822 Sep 19 17:04	27°♐14'52	0°59'15
evening set	2817 Mar 12 22:09	2°♑31'37		max. Earth dist.	2822 Sep 19 10:18	27°♐11'13	6.43053 AU
				morning rise	2822 Oct 02 20:29	0°♑05'09	
conjunction	2817 Mar 26 00:45	5°♑42'03	-1°-1'-18		2822 Oct 02 10:53	0°♑	
minimum elong	2817 Mar 26 00:45	5°♑42'02	1°01'19	retrograde	2823 Jan 31 09:31	16°♑55'46	
max. Earth dist.	2817 Mar 26 15:51	5°♑51'11	5.95375 AU	opposition	2823 Apr 01 19:47	12°♑00'49	1°31'46
morning rise	2817 Apr 08 06:06	8°♑54'04		min. Earth dist.	2823 Apr 02 08:45	11°♑56'36	4.45569 AU
retrograde	2817 Aug 18 15:25	29°♑35'19		direct	2823 Jun 03 03:36	6°♑58'09	
opposition	2817 Oct 17 10:46	24°♑33'15	-1°-34'-14	evening set	2823 Oct 07 15:37	24°♑26'18	
min. Earth dist.	2817 Oct 16 13:46	24°♑40'19	3.94389 AU	max. Earth dist.	2823 Oct 19 08:15	26°♑57'30	6.46093 AU
direct	2817 Dec 14 10:13	19°♑39'15					
	2818 Mar 08 22:30	0°♒		conjunction	2823 Oct 20 14:53	27°♑14'04	1°03'12
evening set	2818 Apr 19 06:26	9°♒25'57		minimum elong	2823 Oct 20 14:53	27°♑14'04	1°03'11
				morning rise	2823 Nov 02 11:15	0°♒00'31	
conjunction	2818 May 02 16:57	12°♒39'58	0°-57'-27		2823 Nov 02 10:17	0°♒	
minimum elong	2818 May 02 16:59	12°♒39'59	0°57'28		2824 Jan 27 17:29	15°♒	
max. Earth dist.	2818 May 04 12:41	13°♒06'18	5.95666 AU	retrograde	2824 Mar 01 14:18	16°♒44'23	
	2818 May 12 09:53	15°♒			2824 Apr 04 14:07	15°♒♐	
morning rise	2818 May 16 06:39	15°♒55'30		opposition	2824 May 01 07:57	11°♒51'44	1°25'16
	2818 Jul 20 20:10	0°♓		min. Earth dist.	2824 May 02 12:10	11°♒42'42	4.44853 AU
retrograde	2818 Sep 25 01:42	6°♓25'48		direct	2824 Jul 03 01:48	6°♒50'02	
min. Earth dist.	2818 Nov 22 05:45	1°♓32'53	3.99370 AU		2824 Sep 20 22:44	15°♒	
opposition	2818 Nov 23 16:19	1°♓21'06	-1°-9'-30	evening set	2824 Nov 06 04:44	24°♒22'36	
	2818 Dec 03 17:57	30°♒♐		max. Earth dist.	2824 Nov 16 23:03	26°♒43'49	6.41607 AU
direct	2819 Jan 20 15:19	26°♒24'52					
	2819 Mar 08 23:08	0°♓		conjunction	2824 Nov 18 23:06	27°♒10'11	0°50'09
evening set	2819 May 26 20:07	15°♓51'26		minimum elong	2824 Nov 18 23:08	27°♒10'12	0°50'09
				morning rise	2824 Dec 01 15:26	29°♒56'53	
conjunction	2819 Jun 09 12:56	19°♓04'04	0°-31'-14		2824 Dec 01 21:09	0°♈	
minimum elong	2819 Jun 09 12:58	19°♓04'05	0°31'14	retrograde	2825 Apr 01 22:49	17°♈02'48	
max. Earth dist.	2819 Jun 11 21:49	19°♓37'26	6.04821 AU	opposition	2825 Jun 01 19:48	12°♈10'54	0°55'38
morning rise	2819 Jun 23 07:29	22°♓17'21		min. Earth dist.	2825 Jun 03 08:51	11°♈59'06	4.36853 AU
	2819 Jul 27 19:27	0°♉		direct	2825 Aug 03 07:51	7°♈10'50	
retrograde	2819 Oct 30 10:07	11°♉52'19		evening set	2825 Dec 07 00:21	25°♈05'07	
opposition	2819 Dec 28 23:28	6°♉47'43	0°-19'-32	max. Earth dist.	2825 Dec 17 13:54	27°♈27'27	6.30685 AU
min. Earth dist.	2819 Dec 27 13:36	6°♉59'14	4.11601 AU				
direct	2820 Feb 25 18:33	1°♉48'31		conjunction	2825 Dec 19 16:51	27°♈56'10	0°22'49
asc. node	2820 May 17 22:35	11°♉08'52		minimum elong	2825 Dec 19 16:52	27°♈56'10	0°22'49
evening set	2820 Jul 01 06:52	20°♉37'27			2825 Dec 28 20:38	0°♉	
				morning rise	2826 Jan 01 08:05	0°♉46'52	
conjunction	2820 Jul 15 00:26	23°♉44'00	0°05'27	retrograde	2826 May 05 04:16	18°♉41'30	
minimum elong	2820 Jul 15 00:25	23°♉44'00	0°05'27	opposition	2826 Jul 05 01:29	13°♉48'44	0°08'20
behind sun begin	2820 Jul 14 16:23	23°♉39'27		min. Earth dist.	2826 Jul 06 11:26	13°♉37'53	4.23619 AU
behind sun end	2820 Jul 15 08:28	23°♉48'32		direct	2826 Sep 04 14:18	8°♉51'01	
max. Earth dist.	2820 Jul 16 23:15	24°♉10'32	6.19038 AU	desc. node	2826 Sep 05 10:21	8°♉51'05	
morning rise	2820 Jul 28 18:04	26°♉50'16		evening set	2827 Jan 08 01:00	27°♉20'50	
	2820 Aug 11 23:57	0°♊		max. Earth dist.	2827 Jan 19 02:04	29°♉54'40	6.16218 AU
	2820 Nov 18 23:11	15°♊			2827 Jan 19 11:13	0°♋	
retrograde	2820 Dec 01 05:58	15°♊14'52					
	2820 Dec 13 11:57	15°♋♊		conjunction	2827 Jan 20 18:09	0°♋18'01	0°-12'-33
min. Earth dist.	2821 Jan 29 01:38	10°♊20'41	4.26370 AU	minimum elong	2827 Jan 20 18:08	0°♋18'01	0°12'34
opposition	2821 Jan 30 01:03	10°♊12'49	0°33'52	behind sun begin	2827 Jan 20 12:54	0°♋14'58	
direct	2821 Mar 31 01:56	5°♊11'17		behind sun end	2827 Jan 20 23:23	0°♋21'03	
	2821 Jun 25 18:08	15°♊		morning rise	2827 Feb 02 11:39	3°♋15'39	
evening set	2821 Aug 04 20:15	23°♊21'24			2827 Mar 29 16:32	15°♋	

retrograde	2827 Jun 09 21:05	22° \approx 17'38		opposition	2833 Feb 03 11:52	14° Ω 50'15	0°40'32
opposition	2827 Aug 09 11:07	17° \approx 22'31	0°-44'-55	min. Earth dist.	2833 Feb 02 15:33	14° Ω 57'04	4.28089 AU
min. Earth dist.	2827 Aug 10 07:51	17° \approx 15'48	4.08938 AU	direct	2833 Apr 04 18:15	9° Ω 48'29	
	2827 Aug 28 14:01	15° \approx			2833 Jun 04 06:44	15° Ω	
direct	2827 Oct 08 15:58	12° \approx 27'12		evening set	2833 Aug 09 12:07	27° Ω 54'40	
	2827 Nov 17 22:50	15° \approx			2833 Aug 19 01:07	0° \approx	
	2828 Feb 04 02:41	0° \approx					
evening set	2828 Feb 10 23:35	1° \approx 37'32		conjunction	2833 Aug 23 00:21	0° \approx 52'16	0°42'24
				minimum elong	2833 Aug 23 00:19	0° \approx 52'15	0°42'24
conjunction	2828 Feb 23 20:31	4° \approx 42'08	0°-45'-16	max. Earth dist.	2833 Aug 23 19:09	1° \approx 02'34	6.34653 AU
minimum elong	2828 Feb 23 20:29	4° \approx 42'07	0°45'17	morning rise	2833 Sep 05 10:41	3° \approx 48'43	
max. Earth dist.	2828 Feb 23 06:06	4° \approx 33'30	6.02644 AU	retrograde	2834 Jan 05 12:45	21° \approx 08'37	
morning rise	2828 Mar 07 19:11	7° \approx 47'54		opposition	2834 Mar 06 16:23	16° \approx 10'46	1°17'46
retrograde	2828 Jul 16 13:35	27° \approx 55'56		min. Earth dist.	2834 Mar 06 12:46	16° \approx 11'58	4.39968 AU
opposition	2828 Sep 14 17:21	22° \approx 57'17	-1°-25'-7	direct	2834 May 07 04:18	11° \approx 08'06	
min. Earth dist.	2828 Sep 14 15:28	22° \approx 57'54	3.97820 AU	evening set	2834 Sep 10 22:03	28° \approx 47'13	
direct	2828 Nov 12 11:28	18° \approx 03'33			2834 Sep 16 13:23	0° \approx	
	2829 Feb 12 17:46	0° \approx					
evening set	2829 Mar 18 00:32	7° \approx 44'02		conjunction	2834 Sep 24 03:01	1° \approx 38'10	1°00'50
				minimum elong	2834 Sep 24 03:00	1° \approx 38'09	1°00'50
conjunction	2829 Mar 31 04:01	10° \approx 55'04	-1°-2'-17	max. Earth dist.	2834 Sep 23 17:27	1° \approx 33'00	6.43772 AU
minimum elong	2829 Mar 31 04:00	10° \approx 55'04	1°02'18	morning rise	2834 Oct 07 05:18	4° \approx 27'45	
max. Earth dist.	2829 Mar 31 22:19	11° \approx 06'10	5.94995 AU	retrograde	2835 Feb 04 15:23	21° \approx 16'06	
morning rise	2829 Apr 13 10:34	14° \approx 07'46		opposition	2835 Apr 06 02:35	16° \approx 21'35	1°32'20
	2829 Jun 28 01:47	0° \approx		min. Earth dist.	2835 Apr 06 17:46	16° \approx 16'40	4.45883 AU
retrograde	2829 Aug 23 20:24	4° \approx 50'14		direct	2835 Jun 07 13:28	11° \approx 19'05	
	2829 Oct 21 03:12	30° \approx		evening set	2835 Oct 11 23:32	28° \approx 46'44	
opposition	2829 Oct 22 15:42	29° \approx 47'41	-1°-32'-57		2835 Oct 17 15:40	0° \approx	
min. Earth dist.	2829 Oct 21 16:12	29° \approx 55'37	3.94618 AU	max. Earth dist.	2835 Oct 23 11:52	1° \approx 15'48	6.45993 AU
direct	2829 Dec 19 14:07	24° \approx 53'27					
	2830 Feb 14 11:31	0° \approx		conjunction	2835 Oct 24 21:53	1° \approx 34'12	1°02'21
evening set	2830 Apr 24 11:04	14° \approx 38'46		minimum elong	2835 Oct 24 21:53	1° \approx 34'12	1°02'21
	2830 Apr 25 22:36	15° \approx		morning rise	2835 Nov 06 17:37	4° \approx 20'25	
					2835 Dec 30 21:22	15° \approx	
conjunction	2830 May 07 22:48	17° \approx 52'55	0°-54'-57	retrograde	2836 Mar 05 22:03	21° \approx 05'12	
minimum elong	2830 May 07 22:50	17° \approx 52'56	0°54'58	opposition	2836 May 05 16:32	16° \approx 12'42	1°22'24
max. Earth dist.	2830 May 09 22:27	18° \approx 21'32	5.96487 AU	min. Earth dist.	2836 May 06 22:02	16° \approx 03'16	4.44375 AU
morning rise	2830 May 21 13:17	21° \approx 08'27			2836 May 15 06:09	15° \approx	
	2830 Jun 29 12:17	0° \approx		direct	2836 Jul 07 11:04	11° \approx 11'11	
retrograde	2830 Sep 30 03:27	11° \approx 33'17			2836 Aug 28 23:59	15° \approx	
min. Earth dist.	2830 Nov 27 05:57	6° \approx 40'09	4.00677 AU	evening set	2836 Nov 10 11:38	28° \approx 44'47	
opposition	2830 Nov 28 16:15	6° \approx 28'27	-1°-3'-36		2836 Nov 16 05:16	0° \approx	
direct	2831 Jan 25 17:23	1° \approx 31'50		max. Earth dist.	2836 Nov 21 06:20	1° \approx 06'29	6.40807 AU
evening set	2831 May 31 22:50	20° \approx 54'05					
				conjunction	2836 Nov 23 05:40	1° \approx 32'30	0°47'06
conjunction	2831 Jun 14 16:03	24° \approx 06'09	0°-26'-26	minimum elong	2836 Nov 23 05:42	1° \approx 32'31	0°47'05
minimum elong	2831 Jun 14 16:05	24° \approx 06'10	0°26'27	morning rise	2836 Dec 05 21:25	4° \approx 19'20	
max. Earth dist.	2831 Jun 17 00:19	24° \approx 39'01	6.06478 AU	retrograde	2837 Apr 06 09:10	21° \approx 29'01	
morning rise	2831 Jun 28 10:59	27° \approx 18'48		opposition	2837 Jun 06 08:04	16° \approx 37'04	0°49'57
	2831 Jul 10 04:10	0° \approx		min. Earth dist.	2837 Jun 07 20:27	16° \approx 25'29	4.35775 AU
retrograde	2831 Nov 04 01:24	16° \approx 44'49		direct	2837 Aug 07 18:00	11° \approx 37'21	
min. Earth dist.	2832 Jan 01 06:39	11° \approx 51'51	4.13432 AU	evening set	2837 Dec 11 08:35	29° \approx 33'51	
opposition	2832 Jan 02 16:13	11° \approx 40'26	0°-11'-51		2837 Dec 13 07:14	0° \approx	
direct	2832 Mar 01 13:44	6° \approx 40'51		max. Earth dist.	2837 Dec 21 22:14	1° \approx 56'43	6.29410 AU
asc. node	2832 Mar 28 04:32	7° \approx 49'29					
evening set	2832 Jul 06 04:39	25° \approx 24'52		conjunction	2837 Dec 24 00:46	2° \approx 25'18	0°18'16
				minimum elong	2837 Dec 24 00:47	2° \approx 25'19	0°18'16
conjunction	2832 Jul 19 21:53	28° \approx 30'28	0°10'31	morning rise	2838 Jan 05 16:08	5° \approx 16'33	
minimum elong	2832 Jul 19 21:52	28° \approx 30'28	0°10'31	retrograde	2838 May 09 22:09	23° \approx 17'27	
behind sun begin	2832 Jul 19 15:28	28° \approx 26'51		opposition	2838 Jul 09 18:53	18° \approx 24'25	0°01'06
behind sun end	2832 Jul 20 04:17	28° \approx 34'04		min. Earth dist.	2838 Jul 11 04:10	18° \approx 13'46	4.22201 AU
max. Earth dist.	2832 Jul 21 17:14	28° \approx 54'56	6.20898 AU	desc. node	2838 Jul 18 00:01	17° \approx 21'42	
	2832 Jul 26 12:35	0° \approx		direct	2838 Sep 09 05:36	13° \approx 26'58	
morning rise	2832 Aug 02 14:54	1° \approx 35'38			2839 Jan 03 19:59	0° \approx	
	2832 Oct 09 06:13	15° \approx		evening set	2839 Jan 12 12:41	2° \approx 00'00	
retrograde	2832 Dec 05 16:59	19° \approx 51'49		max. Earth dist.	2839 Jan 23 16:48	4° \approx 36'04	6.14786 AU
	2833 Feb 02 06:48	15° \approx					

conjunction	2839 Jan 25 06:10	4°≈57'54	0°-17'-23	morning rise	2844 Aug 07 10:15	6°Ω17'04	
minimum elong	2839 Jan 25 06:09	4°≈57'53	0°17'24		2844 Sep 17 15:14	15°Ω	
morning rise	2839 Feb 06 23:59	7°≈56'17		retrograde	2844 Dec 10 01:25	24°Ω26'00	
	2839 Mar 10 11:13	15°≈		opposition	2845 Feb 07 21:46	19°Ω24'55	0°46'48
retrograde	2839 Jun 14 19:14	27°≈05'37		min. Earth dist.	2845 Feb 07 02:16	19°Ω31'26	4.29580 AU
opposition	2839 Aug 14 09:06	22°≈10'07	0°-51'-28		2845 Mar 20 15:55	15°RΩ	
min. Earth dist.	2839 Aug 15 03:13	22°≈04'15	4.07616 AU	direct	2845 Apr 09 07:04	14°Ω22'59	
direct	2839 Oct 13 09:05	17°≈15'04			2845 Apr 29 04:37	15°Ω	
	2840 Jan 18 15:48	0°✕			2845 Aug 02 20:38	0°൬	
evening set	2840 Feb 15 16:38	6°✕28'44		evening set	2845 Aug 14 03:09	2°൬25'49	
conjunction	2840 Feb 28 14:04	9°✕34'03	0°-48'-41	conjunction	2845 Aug 27 14:22	5°൬22'28	0°45'51
minimum elong	2840 Feb 28 14:02	9°✕34'02	0°48'42	minimum elong	2845 Aug 27 14:19	5°൬22'27	0°45'52
max. Earth dist.	2840 Feb 28 02:14	9°✕26'57	6.01539 AU	max. Earth dist.	2845 Aug 28 05:09	5°൬30'34	6.35984 AU
morning rise	2840 Mar 12 13:38	12°✕40'41		morning rise	2845 Sep 09 23:42	8°൬17'57	
	2840 Jun 08 00:54	0°Υ		retrograde	2846 Jan 09 19:33	25°൬32'36	
retrograde	2840 Jul 21 14:54	2°Υ54'39		opposition	2846 Mar 10 23:19	20°൬35'13	1°21'11
	2840 Sep 03 14:06	30°R✕		min. Earth dist.	2846 Mar 10 22:40	20°൬35'26	4.41046 AU
opposition	2840 Sep 19 18:14	27°✕55'27	-1°-28'-16	direct	2846 May 11 16:12	15°൬32'30	
min. Earth dist.	2840 Sep 19 13:46	27°✕56'55	3.97047 AU		2846 Aug 31 10:20	0°Ω	
direct	2840 Nov 17 09:19	23°✕01'42		evening set	2846 Sep 15 08:00	3°Ω09'14	
	2841 Jan 24 03:17	0°Υ					
evening set	2841 Mar 22 22:25	12°Υ44'10		conjunction	2846 Sep 28 12:02	5°Ω59'31	1°02'03
conjunction	2841 Apr 05 03:07	15°Υ55'54	-1°-2'-45	minimum elong	2846 Sep 28 12:01	5°Ω59'30	1°02'03
minimum elong	2841 Apr 05 03:07	15°Υ55'54	1°02'46	max. Earth dist.	2846 Sep 27 23:34	5°Ω52'47	6.44488 AU
max. Earth dist.	2841 Apr 06 02:09	16°Υ09'52	5.94636 AU	morning rise	2846 Oct 11 13:15	8°Ω48'24	
morning rise	2841 Apr 18 10:38	19°Υ09'14		retrograde	2847 Feb 08 19:01	25°Ω34'26	
	2841 Jun 05 10:32	0°Ω		opposition	2847 Apr 10 08:27	20°Ω40'11	1°32'21
retrograde	2841 Aug 28 23:21	9°Ω52'56		min. Earth dist.	2847 Apr 11 00:58	20°Ω34'51	4.46190 AU
opposition	2841 Oct 27 16:05	4°Ω50'04	-1°-31'-2	direct	2847 Jun 11 20:43	15°Ω37'44	
min. Earth dist.	2841 Oct 26 15:41	4°Ω58'18	3.94728 AU		2847 Oct 01 17:17	0°M	
	2841 Dec 18 01:56	30°RΥ		evening set	2847 Oct 16 06:05	3°M04'47	
direct	2841 Dec 24 13:51	29°Υ55'38		max. Earth dist.	2847 Oct 27 16:13	5°M32'47	6.45838 AU
	2841 Dec 31 01:12	0°Ω		conjunction	2847 Oct 29 03:42	5°M52'00	1°01'09
	2842 Apr 09 13:56	15°Ω		minimum elong	2847 Oct 29 03:43	5°M52'00	1°01'09
evening set	2842 Apr 29 11:55	19°Ω40'24		morning rise	2847 Nov 10 22:36	8°M38'00	
conjunction	2842 May 13 00:33	22°Ω54'46	0°-52'-9		2847 Dec 11 13:32	15°M	
minimum elong	2842 May 13 00:35	22°Ω54'47	0°52'10	retrograde	2848 Mar 10 04:35	25°M24'01	
max. Earth dist.	2842 May 15 01:10	23°Ω23'54	5.97044 AU	opposition	2848 May 10 00:21	20°M31'42	1°19'05
morning rise	2842 May 26 16:08	26°Ω10'30		min. Earth dist.	2848 May 11 07:31	20°M21'45	4.43734 AU
	2842 Jun 11 23:50	0°Π		direct	2848 Jul 11 19:28	15°M30'24	
retrograde	2842 Oct 04 23:17	16°Π31'03			2848 Oct 31 09:05	0°✕	
min. Earth dist.	2842 Dec 02 00:51	11°Π38'18	4.01632 AU	evening set	2848 Nov 14 17:32	3°✕05'36	
opposition	2842 Dec 03 12:20	11°Π26'12	0°-57'-30	max. Earth dist.	2848 Nov 25 09:07	5°✕26'03	6.39697 AU
direct	2843 Jan 30 13:43	6°Π29'13		conjunction	2848 Nov 27 11:01	5°✕53'34	0°43'45
evening set	2843 Jun 05 23:01	25°Π48'58		minimum elong	2848 Nov 27 11:02	5°✕53'35	0°43'45
conjunction	2843 Jun 19 16:41	29°Π00'39	0°-21'-38	morning rise	2848 Dec 10 02:39	8°✕40'46	
minimum elong	2843 Jun 19 16:43	29°Π00'40	0°21'39	retrograde	2849 Apr 10 21:34	25°✕55'36	
max. Earth dist.	2843 Jun 21 23:39	29°Π32'40	6.07759 AU	opposition	2849 Jun 10 20:25	21°✕03'34	0°43'53
	2843 Jun 23 22:38	0°Ω		min. Earth dist.	2849 Jun 12 09:17	20°✕51'49	4.34237 AU
morning rise	2843 Jul 03 11:49	2°Ω12'47		direct	2849 Aug 12 04:35	16°✕04'03	
retrograde	2843 Nov 08 17:07	21°Ω31'32			2849 Nov 27 05:58	0°Ω	
min. Earth dist.	2844 Jan 05 23:26	16°Ω38'09	4.14893 AU	evening set	2849 Dec 15 17:07	4°Ω04'36	
opposition	2844 Jan 07 07:00	16°Ω27'26	0°-4'-21	max. Earth dist.	2849 Dec 26 08:37	6°Ω29'05	6.27567 AU
asc. node	2844 Feb 07 17:43	12°Ω42'37		conjunction	2849 Dec 28 09:27	6°Ω56'49	0°13'31
direct	2844 Mar 06 08:56	11°Ω27'31		minimum elong	2849 Dec 28 09:28	6°Ω56'49	0°13'32
	2844 Jul 10 10:32	0°Ω		behind sun begin	2849 Dec 28 04:54	6°Ω54'15	
evening set	2844 Jul 11 00:53	0°Ω08'02		behind sun end	2849 Dec 28 14:01	6°Ω59'24	
conjunction	2844 Jul 24 17:53	3°Ω12'50	0°15'24	morning rise	2850 Jan 10 00:49	9°Ω48'51	
minimum elong	2844 Jul 24 17:52	3°Ω12'50	0°15'24	retrograde	2850 May 14 17:08	27°Ω58'12	
behind sun begin	2844 Jul 24 16:04	3°Ω11'49		desc. node	2850 May 28 06:10	27°Ω41'03	
behind sun end	2844 Jul 24 19:40	3°Ω13'50		opposition	2850 Jul 14 13:39	23°Ω04'57	0°-6'-21
max. Earth dist.	2844 Jul 26 12:03	3°Ω36'33	6.22434 AU	min. Earth dist.	2850 Jul 15 21:41	22°Ω54'41	4.20172 AU
				direct	2850 Sep 13 19:47	18°Ω07'49	

	2850 Dec 17 22:26	0°♊		conjunction	2856 Jul 29 14:25	7°♌56'36	0°20'15
evening set	2851 Jan 17 03:03	6°♊46'32		minimum elong	2856 Jul 29 14:24	7°♌56'36	0°20'14
max. Earth dist.	2851 Jan 28 09:01	9°♊24'26	6.12734 AU	max. Earth dist.	2856 Jul 31 04:26	8°♌17'53	6.24770 AU
				morning rise	2856 Aug 12 06:03	10°♌59'27	
conjunction	2851 Jan 29 20:46	9°♊45'24	0°-22'-16		2856 Aug 30 14:53	15°♌	
minimum elong	2851 Jan 29 20:45	9°♊45'23	0°22'17	retrograde	2856 Dec 14 10:02	28°♌58'25	
morning rise	2851 Feb 11 15:20	12°♊44'58		opposition	2857 Feb 12 07:17	23°♌57'46	0°52'43
	2851 Feb 21 08:29	15°♊		min. Earth dist.	2857 Feb 11 14:44	24°♌03'17	4.31786 AU
	2851 May 14 04:09	0°♋		direct	2857 Apr 13 22:42	18°♌55'35	
retrograde	2851 Jun 19 22:52	2°♋04'18			2857 Jul 16 18:38	0°♍	
	2851 Jul 26 22:23	30°♋		evening set	2857 Aug 18 16:22	6°♍52'37	
opposition	2851 Aug 19 11:04	27°♋08'18	0°-58'00				
min. Earth dist.	2851 Aug 20 02:28	27°♋03'17	4.05708 AU	conjunction	2857 Sep 01 02:43	9°♍48'05	0°49'00
direct	2851 Oct 18 06:04	22°♋13'27		minimum elong	2857 Sep 01 02:41	9°♍48'04	0°49'00
	2851 Dec 30 06:07	0°♋		max. Earth dist.	2857 Sep 01 14:56	9°♍54'44	6.37887 AU
evening set	2852 Feb 20 14:13	11°♋32'38		morning rise	2857 Sep 14 10:44	12°♍42'17	
				retrograde	2858 Jan 13 21:30	29°♍50'05	
conjunction	2852 Mar 04 12:41	14°♋39'04	0°-51'-55	opposition	2858 Mar 15 03:58	24°♍53'10	1°24'04
minimum elong	2852 Mar 04 12:39	14°♋39'03	0°51'57	min. Earth dist.	2858 Mar 15 05:02	24°♍52'49	4.42522 AU
max. Earth dist.	2852 Mar 04 06:24	14°♋35'18	5.99964 AU	direct	2858 May 15 23:39	19°♍50'24	
morning rise	2852 Mar 17 13:07	17°♋46'50			2858 Aug 14 12:18	0°♎	
	2852 May 11 23:13	0°♎		evening set	2858 Sep 19 14:51	7°♎23'35	
retrograde	2852 Jul 26 23:59	8°♎08'18					
opposition	2852 Sep 25 00:46	3°♎08'35	-1°-30'-57	conjunction	2858 Oct 02 17:44	10°♎13'04	1°02'54
min. Earth dist.	2852 Sep 24 17:53	3°♎10'52	3.95994 AU	minimum elong	2858 Oct 02 17:44	10°♎13'04	1°02'53
	2852 Oct 20 18:23	30°♎		max. Earth dist.	2858 Oct 02 00:34	10°♎03'48	6.45413 AU
direct	2852 Nov 22 12:13	28°♎14'55		morning rise	2858 Oct 15 18:01	13°♎01'13	
	2852 Dec 24 22:56	0°♎		retrograde	2859 Feb 12 22:15	29°♎44'44	
evening set	2853 Mar 28 02:51	18°♎00'13		opposition	2859 Apr 14 11:57	24°♎50'51	1°31'51
				min. Earth dist.	2859 Apr 15 08:01	24°♎44'23	4.46504 AU
conjunction	2853 Apr 10 08:35	21°♎12'40	-1°-2'-46	direct	2859 Jun 16 03:21	19°♎48'27	
minimum elong	2853 Apr 10 08:35	21°♎12'40	1°02'46		2859 Sep 15 02:59	0°♏	
max. Earth dist.	2853 Apr 11 10:48	21°♎28'35	5.94195 AU	evening set	2859 Oct 20 09:30	7°♏15'00	
morning rise	2853 Apr 23 17:30	24°♎26'49		max. Earth dist.	2859 Oct 31 15:14	9°♏40'49	6.45494 AU
	2853 May 17 07:33	0°♏					
	2853 Aug 23 13:44	15°♏		conjunction	2859 Nov 02 06:26	10°♏02'05	0°59'39
retrograde	2853 Sep 03 05:33	15°♏11'15		minimum elong	2859 Nov 02 06:28	10°♏02'05	0°59'39
	2853 Sep 13 20:37	15°♏		morning rise	2859 Nov 15 00:45	12°♏47'59	
opposition	2853 Nov 01 21:51	10°♏07'58	-1°-28'-17		2859 Nov 25 07:30	15°♏	
min. Earth dist.	2853 Oct 31 18:11	10°♏17'20	3.94987 AU	retrograde	2860 Mar 14 09:07	29°♏36'14	
direct	2853 Dec 29 17:41	5°♏13'17		opposition	2860 May 14 05:56	24°♏44'01	1°15'26
	2854 Mar 21 16:28	15°♏		min. Earth dist.	2860 May 15 14:25	24°♏33'38	4.42755 AU
evening set	2854 May 04 18:53	24°♏56'44		direct	2860 Jul 15 23:47	19°♏42'50	
					2860 Oct 14 19:10	0°♐	
conjunction	2854 May 18 08:35	28°♏11'08	0°-48'-48	evening set	2860 Nov 18 21:26	7°♐21'01	
minimum elong	2854 May 18 08:37	28°♏11'09	0°48'48	max. Earth dist.	2860 Nov 29 12:34	9°♐41'41	6.38150 AU
max. Earth dist.	2854 May 20 11:42	28°♏41'41	5.97995 AU				
	2854 May 25 22:54	0°♑		conjunction	2860 Dec 01 14:43	10°♐09'27	0°40'15
morning rise	2854 Jun 01 00:58	1°♑26'46		minimum elong	2860 Dec 01 14:45	10°♐09'28	0°40'15
retrograde	2854 Oct 10 00:21	21°♑40'47		morning rise	2860 Dec 14 06:04	12°♐57'11	
min. Earth dist.	2854 Dec 07 01:36	16°♑47'53	4.03164 AU		2861 Apr 01 03:37	0°♑	
opposition	2854 Dec 08 12:57	16°♑35'49	0°-50'-41	retrograde	2861 Apr 15 09:26	0°♑18'54	
direct	2855 Feb 04 17:30	11°♑38'25			2861 Apr 29 15:24	30°♑	
	2855 Jun 07 06:50	0°♑		opposition	2861 Jun 15 07:54	25°♑26'51	0°37'41
evening set	2855 Jun 11 02:58	0°♑53'00		min. Earth dist.	2861 Jun 16 21:40	25°♑14'49	4.32196 AU
				direct	2861 Aug 16 13:17	20°♑27'38	
conjunction	2855 Jun 24 20:59	4°♑03'54	0°-16'-29		2861 Nov 09 23:18	0°♑	
minimum elong	2855 Jun 24 21:01	4°♑03'55	0°16'30	evening set	2861 Dec 20 01:23	8°♑34'07	
max. Earth dist.	2855 Jun 27 05:12	4°♑36'28	6.09760 AU	max. Earth dist.	2861 Dec 30 16:00	10°♑58'57	6.25185 AU
morning rise	2855 Jul 08 16:02	7°♑15'04					
retrograde	2855 Nov 13 08:40	26°♑23'19		conjunction	2862 Jan 01 17:42	11°♑27'19	0°08'44
asc. node	2855 Dec 18 17:32	24°♑22'58		minimum elong	2862 Jan 01 17:43	11°♑27'19	0°08'44
opposition	2856 Jan 11 23:45	21°♑19'31	0°03'20	behind sun begin	2862 Jan 01 10:47	11°♑23'23	
min. Earth dist.	2856 Jan 10 16:17	21°♑30'10	4.17157 AU	behind sun end	2862 Jan 02 00:38	11°♑31'15	
direct	2856 Mar 11 05:26	16°♑19'16		morning rise	2862 Jan 14 09:35	14°♑20'30	
	2856 Jun 23 13:05	0°♒			2862 Apr 07 08:14	0°♒	
evening set	2856 Jul 15 22:12	4°♒53'08		desc. node	2862 Apr 08 02:39	0°♒05'32	

retrograde	2862 May 19 14:41	2° 30 40'39		retrograde	2867 Nov 17 23:34	1° 01 14'11	
	2862 Jul 01 11:12	30° R 3			2867 Dec 15 11:50	30° R 3	
opposition	2862 Jul 19 09:40	27° 3 47'06	0°-13'-47	min. Earth dist.	2868 Jan 15 10:12	26° 3 20'41	4.19526 AU
min. Earth dist.	2862 Jul 20 15:55	27° 3 37'22	4.17605 AU	opposition	2868 Jan 16 15:42	26° 3 10'42	0°11'01
direct	2862 Sep 18 10:25	22° 3 50'17		direct	2868 Mar 16 02:48	21° 3 10'03	
	2862 Nov 28 12:15	0° 3			2868 Jun 04 17:24	0° 0	
evening set	2863 Jan 21 18:56	11° 3 36'44		evening set	2868 Jul 20 18:46	9° 0 37'24	
max. Earth dist.	2863 Feb 02 06:02	14° 3 18'28	6.10222 AU				
				conjunction	2868 Aug 03 10:27	12° 0 39'39	0°25'00
conjunction	2863 Feb 03 13:22	14° 3 36'57	0°-27'-2	minimum elong	2868 Aug 03 10:26	12° 0 39'38	0°25'00
minimum elong	2863 Feb 03 13:20	14° 3 36'56	0°27'02	max. Earth dist.	2868 Aug 04 22:18	12° 0 59'37	6.27050 AU
	2863 Feb 05 04:26	15° 3			2868 Aug 13 22:45	15° 0	
morning rise	2863 Feb 16 08:31	17° 3 37'53		morning rise	2868 Aug 17 00:59	15° 0 41'04	
	2863 Apr 15 01:50	0° 3			2868 Oct 31 10:09	0° 0	
retrograde	2863 Jun 25 06:18	7° 3 09'00		retrograde	2868 Dec 18 18:01	3° 0 30'46	
opposition	2863 Aug 24 15:39	2° 3 12'37	-1°-4'-11		2869 Feb 05 07:59	30° R 0	
min. Earth dist.	2863 Aug 25 04:36	2° 3 08'23	4.03494 AU	opposition	2869 Feb 16 16:32	28° 0 30'41	0°58'23
	2863 Sep 11 04:41	30° R		min. Earth dist.	2869 Feb 16 02:00	28° 0 35'31	4.33801 AU
direct	2863 Oct 23 05:16	27° 3 18'07		direct	2869 Apr 18 11:47	23° 0 28'22	
	2863 Dec 03 09:39	0° 3			2869 Jun 26 20:41	0° 0	
evening set	2864 Feb 25 15:22	16° 3 44'02		evening set	2869 Aug 23 05:42	11° 0 20'33	
conjunction	2864 Mar 09 14:39	19° 3 51'40	0°-54'-47	conjunction	2869 Sep 05 14:49	14° 0 14'55	0°51'55
minimum elong	2864 Mar 09 14:37	19° 3 51'39	0°54'48	minimum elong	2869 Sep 05 14:47	14° 0 14'54	0°51'55
max. Earth dist.	2864 Mar 09 12:09	19° 3 50'09	5.98250 AU	max. Earth dist.	2869 Sep 05 21:10	14° 0 18'22	6.39475 AU
morning rise	2864 Mar 22 16:25	23° 3 00'45		morning rise	2869 Sep 18 21:50	17° 0 08'01	
	2864 Apr 21 17:30	0° 0			2869 Nov 25 17:00	0° 0	
retrograde	2864 Aug 01 10:09	13° 3 29'52		retrograde	2870 Jan 18 03:08	4° 0 10'24	
opposition	2864 Sep 30 10:04	8° 3 29'36	-1°-32'-54		2870 Mar 13 12:10	30° R 0	
min. Earth dist.	2864 Sep 29 22:32	8° 3 33'27	3.95002 AU	opposition	2870 Mar 19 09:42	29° 0 13'58	1°26'36
direct	2864 Nov 27 17:11	3° 3 35'57		min. Earth dist.	2870 Mar 19 14:28	29° 0 12'24	4.43608 AU
evening set	2865 Apr 02 10:30	23° 3 23'45		direct	2870 May 20 09:32	24° 0 11'08	
					2870 Jul 25 08:19	0° 0	
conjunction	2865 Apr 15 17:32	26° 3 36'53	-1°-2'-13	evening set	2870 Sep 23 22:53	11° 0 42'09	
minimum elong	2865 Apr 15 17:32	26° 3 36'53	1°02'14	max. Earth dist.	2870 Oct 06 04:57	14° 0 20'16	6.45914 AU
max. Earth dist.	2865 Apr 17 01:29	26° 3 56'16	5.94016 AU				
morning rise	2865 Apr 29 03:34	29° 3 51'38		conjunction	2870 Oct 07 00:59	14° 0 31'05	1°03'27
	2865 Apr 29 17:29	0° 3		minimum elong	2870 Oct 07 00:59	14° 0 31'04	1°03'28
	2865 Jul 09 06:46	15° 3		morning rise	2870 Oct 20 00:09	17° 0 18'38	
retrograde	2865 Sep 08 14:27	20° 3 35'15			2870 Dec 26 12:54	0° 0	
min. Earth dist.	2865 Nov 06 00:22	15° 3 41'28	3.95631 AU	retrograde	2871 Feb 17 01:47	4° 0 01'00	
opposition	2865 Nov 07 05:43	15° 3 31'30	-1°-24'-41		2871 Apr 11 21:00	30° R 0	
	2865 Nov 11 02:42	15° 3 08		opposition	2871 Apr 18 17:23	29° 0 07'25	1°30'57
direct	2866 Jan 04 02:12	10° 3 36'29		min. Earth dist.	2871 Apr 19 14:58	29° 0 00'29	4.46418 AU
	2866 Feb 25 13:31	15° 3		direct	2871 Jun 20 08:51	24° 0 05'07	
	2866 May 08 23:01	0° 0			2871 Aug 26 05:47	0° 0	
evening set	2866 May 10 03:33	0° 0 16'54		evening set	2871 Oct 24 15:29	11° 0 32'25	
				max. Earth dist.	2871 Nov 04 17:53	13° 0 56'44	6.44820 AU
conjunction	2866 May 23 18:11	3° 0 31'04	0°-44'-59				
minimum elong	2866 May 23 18:13	3° 0 31'05	0°45'00	conjunction	2871 Nov 06 11:42	14° 0 19'28	0°57'50
max. Earth dist.	2866 May 26 00:54	4° 0 03'37	5.99374 AU	minimum elong	2871 Nov 06 11:43	14° 0 19'29	0°57'49
morning rise	2866 Jun 06 11:14	6° 0 46'20			2871 Nov 09 14:13	15° 0	
retrograde	2866 Oct 15 00:43	26° 0 51'41		morning rise	2871 Nov 19 05:29	17° 0 05'26	
min. Earth dist.	2866 Dec 12 01:18	21° 0 59'04	4.05097 AU		2872 Jan 26 14:03	0° 0	
opposition	2866 Dec 13 13:33	21° 0 46'42	0°-43'-25	retrograde	2872 Mar 18 18:46	3° 0 56'54	
direct	2867 Feb 09 20:30	16° 0 48'54			2872 May 11 08:42	30° R 0	
	2867 May 20 16:59	0° 0		opposition	2872 May 18 15:03	29° 0 04'50	1°11'17
evening set	2867 Jun 16 07:16	5° 0 57'09		min. Earth dist.	2872 May 20 01:55	28° 0 53'43	4.41526 AU
				direct	2872 Jul 20 08:50	24° 0 03'51	
conjunction	2867 Jun 30 01:09	9° 0 07'01	0°-11'-13		2872 Sep 24 19:44	0° 0	
minimum elong	2867 Jun 30 01:10	9° 0 07'01	0°11'13	evening set	2872 Nov 23 04:32	11° 0 45'29	
behind sun begin	2867 Jun 29 19:05	9° 0 03'32		max. Earth dist.	2872 Dec 03 17:32	14° 0 05'34	6.36450 AU
behind sun end	2867 Jun 30 07:15	9° 0 10'30					
max. Earth dist.	2867 Jul 02 06:39	9° 0 37'49	6.12033 AU	conjunction	2872 Dec 05 21:33	14° 0 34'29	0°36'23
morning rise	2867 Jul 13 20:07	12° 0 17'02		minimum elong	2872 Dec 05 21:35	14° 0 34'30	0°36'24
	2867 Oct 21 05:38	0° 0		morning rise	2872 Dec 18 12:54	17° 0 22'53	
asc. node	2867 Oct 27 23:15	0° 0 31'03			2873 Feb 20 18:09	0° 0	

retrograde	2873 Apr 20 00:57	4°♄51'57		min. Earth dist.	2878 Dec 16 21:54	26°♄58'14	4.07184 AU
opposition	2873 Jun 19 23:20	29°♄59'45	0°30'59	opposition	2878 Dec 18 09:43	26°♄46'01	0°-36'-7
	2873 Jun 19 22:33	30°♄		direct	2879 Feb 14 20:37	21°♄47'45	
min. Earth dist.	2873 Jun 21 12:09	29°♄48'00	4.30134 AU		2879 May 01 12:51	0°♄	
direct	2873 Aug 21 00:30	25°♄00'50		evening set	2879 Jun 21 06:53	10°♄49'32	
	2873 Oct 19 11:37	0°♄					
evening set	2873 Dec 24 13:15	13°♄13'06		conjunction	2879 Jul 05 00:55	13°♄58'24	0°-6'-4
max. Earth dist.	2874 Jan 04 06:57	15°♄40'23	6.22943 AU	minimum elong	2879 Jul 05 00:55	13°♄58'24	0°06'05
				behind sun begin	2879 Jul 04 16:59	13°♄53'52	
conjunction	2874 Jan 06 05:49	16°♄07'16	0°03'43	behind sun end	2879 Jul 05 08:51	14°♄02'55	
minimum elong	2874 Jan 06 05:48	16°♄07'16	0°03'43	max. Earth dist.	2879 Jul 07 05:23	14°♄28'28	6.14295 AU
behind sun begin	2874 Jan 05 21:55	16°♄02'45		morning rise	2879 Jul 18 19:24	17°♄07'13	
behind sun end	2874 Jan 06 13:42	16°♄11'47		asc. node	2879 Sep 07 14:46	27°♄50'51	
morning rise	2874 Jan 18 21:51	19°♄01'29			2879 Sep 19 18:59	0°♄	
desc. node	2874 Feb 15 11:29	25°♄08'17		retrograde	2879 Nov 22 11:38	5°♄53'56	
	2874 Mar 11 22:26	0°♄		min. Earth dist.	2880 Jan 20 00:27	1°♄00'10	4.21732 AU
retrograde	2874 May 24 16:10	7°♄31'44		opposition	2880 Jan 21 03:52	0°♄50'55	0°18'19
opposition	2874 Jul 24 09:08	2°♄37'56	0°-21'-25		2880 Jan 27 11:27	30°♄	
min. Earth dist.	2874 Jul 25 14:07	2°♄28'36	4.15360 AU	direct	2880 Mar 20 19:17	25°♄50'02	
	2874 Aug 14 22:33	30°♄			2880 May 12 22:24	0°♄	
direct	2874 Sep 23 05:23	27°♄41'31		evening set	2880 Jul 25 11:34	14°♄11'43	
	2874 Oct 31 22:03	0°♄			2880 Jul 29 02:58	15°♄	
	2875 Jan 19 20:37	15°♄					
evening set	2875 Jan 26 14:00	16°♄34'19		conjunction	2880 Aug 08 02:24	17°♄12'47	0°29'26
max. Earth dist.	2875 Feb 07 04:04	19°♄18'35	6.08185 AU	minimum elong	2880 Aug 08 02:22	17°♄12'46	0°29'26
				max. Earth dist.	2880 Aug 09 09:01	17°♄29'47	6.29016 AU
conjunction	2875 Feb 08 08:50	19°♄35'37	0°-31'-45	morning rise	2880 Aug 21 16:10	20°♄13'01	
minimum elong	2875 Feb 08 08:48	19°♄35'36	0°31'45		2880 Oct 08 05:56	0°♄	
morning rise	2875 Feb 21 04:55	22°♄37'48		retrograde	2880 Dec 22 23:31	7°♄55'02	
	2875 Mar 25 15:06	0°♄		opposition	2881 Feb 20 22:59	2°♄55'29	1°03'33
retrograde	2875 Jun 30 12:36	12°♄18'35		min. Earth dist.	2881 Feb 20 11:24	2°♄59'20	4.35403 AU
opposition	2875 Aug 29 21:58	7°♄21'40	-1°-10'-2		2881 Mar 16 13:38	30°♄	
min. Earth dist.	2875 Aug 30 06:24	7°♄18'54	4.01893 AU	direct	2881 Apr 22 22:15	27°♄53'03	
direct	2875 Oct 28 06:03	2°♄27'25			2881 May 30 18:35	0°♄	
evening set	2876 Mar 01 17:31	21°♄57'33		evening set	2881 Aug 27 16:19	15°♄41'55	
conjunction	2876 Mar 14 17:47	25°♄06'03	0°-57'-17	conjunction	2881 Sep 10 00:39	18°♄35'28	0°54'29
minimum elong	2876 Mar 14 17:46	25°♄06'02	0°57'17	minimum elong	2881 Sep 10 00:37	18°♄35'27	0°54'28
max. Earth dist.	2876 Mar 14 21:38	25°♄08'23	5.97250 AU	max. Earth dist.	2881 Sep 10 03:52	18°♄37'13	6.40610 AU
morning rise	2876 Mar 27 20:29	28°♄16'03		morning rise	2881 Sep 23 06:25	21°♄27'41	
	2876 Apr 04 02:30	0°♄			2881 Nov 04 04:19	0°♄	
retrograde	2876 Aug 06 20:56	18°♄49'34		retrograde	2882 Jan 22 06:18	8°♄26'22	
opposition	2876 Oct 05 18:40	13°♄48'43	-1°-34'-4	opposition	2882 Mar 23 14:03	3°♄30'27	1°28'38
min. Earth dist.	2876 Oct 05 04:37	13°♄53'25	3.94732 AU	min. Earth dist.	2882 Mar 23 21:02	3°♄28'11	4.44229 AU
direct	2876 Dec 03 00:19	8°♄54'59			2882 Apr 22 12:28	30°♄	
evening set	2877 Apr 07 16:51	28°♄42'27		direct	2882 May 24 15:48	28°♄27'45	
	2877 Apr 13 01:25	0°♄			2882 Jun 26 04:25	0°♄	
				evening set	2882 Sep 28 05:45	15°♄58'03	
conjunction	2877 Apr 21 00:58	1°♄55'52	-1°-1'-12	max. Earth dist.	2882 Oct 10 05:59	18°♄33'11	6.45970 AU
minimum elong	2877 Apr 21 00:59	1°♄55'53	1°01'12				
max. Earth dist.	2877 Apr 22 13:53	2°♄18'13	5.94490 AU	conjunction	2882 Oct 11 06:50	18°♄46'36	1°03'40
morning rise	2877 May 04 12:07	5°♄10'52		minimum elong	2882 Oct 11 06:50	18°♄46'36	1°03'40
	2877 Jun 16 15:53	15°♄		morning rise	2882 Oct 24 05:20	21°♄33'52	
retrograde	2877 Sep 13 18:55	25°♄50'33			2882 Dec 04 20:16	0°♄	
min. Earth dist.	2877 Nov 11 02:23	20°♄57'11	3.96811 AU	retrograde	2883 Feb 21 08:19	8°♄16'44	
opposition	2877 Nov 12 09:55	20°♄46'29	-1°-20'-30	opposition	2883 Apr 22 23:19	3°♄23'30	1°29'35
direct	2878 Jan 09 06:01	15°♄51'09		min. Earth dist.	2883 Apr 23 23:50	3°♄15'37	4.45931 AU
	2878 Apr 21 19:03	0°♄			2883 May 22 01:37	30°♄	
evening set	2878 May 15 08:55	5°♄26'55		direct	2883 Jun 24 16:07	28°♄21'22	
					2883 Jul 28 11:33	0°♄	
conjunction	2878 May 29 00:07	8°♄40'33	0°-40'-57		2883 Oct 24 23:35	15°♄	
minimum elong	2878 May 29 00:09	8°♄40'35	0°40'58	evening set	2883 Oct 28 21:18	15°♄50'29	
max. Earth dist.	2878 May 31 06:29	9°♄12'46	6.01115 AU	max. Earth dist.	2883 Nov 08 21:58	18°♄14'14	6.43829 AU
morning rise	2878 Jun 11 17:51	11°♄55'15					
	2878 Sep 15 18:54	0°♄		conjunction	2883 Nov 10 17:06	18°♄37'45	0°55'41
retrograde	2878 Oct 19 19:55	1°♄50'57		minimum elong	2883 Nov 10 17:08	18°♄37'46	0°55'41
	2878 Nov 22 15:01	30°♄		morning rise	2883 Nov 23 10:18	21°♄23'55	

	2884 Jan 04 11:02	0°♏			2889 Oct 13 18:13	30°♏	
retrograde	2884 Mar 23 03:52	8°♏19'44		min. Earth dist.	2889 Nov 16 02:59	26°♏07'59	3.97848 AU
opposition	2884 May 23 01:06	3°♏27'45	1°06'43	opposition	2889 Nov 17 11:46	25°♏56'50	-1°-15'-47
min. Earth dist.	2884 May 24 11:41	3°♏16'44	4.40107 AU	direct	2890 Jan 14 09:23	21°♏01'05	
	2884 Jun 22 03:11	30°♏			2890 Apr 02 19:30	0°♏	
direct	2884 Jul 24 16:04	28°♏27'06		evening set	2890 May 20 12:25	10°♏33'02	
	2884 Aug 26 06:58	0°♏					
evening set	2884 Nov 27 12:32	16°♏12'41		conjunction	2890 Jun 03 04:28	13°♏46'20	0°-36'-40
max. Earth dist.	2884 Dec 08 01:55	18°♏33'35	6.34720 AU	minimum elong	2890 Jun 03 04:30	13°♏46'21	0°36'41
				max. Earth dist.	2890 Jun 05 12:40	14°♏19'30	6.02612 AU
conjunction	2884 Dec 10 05:17	19°♏02'16	0°32'18	morning rise	2890 Jun 16 22:30	17°♏00'28	
minimum elong	2884 Dec 10 05:18	19°♏02'17	0°32'18		2890 Aug 17 03:07	0°♏	
morning rise	2884 Dec 22 20:32	21°♏51'20		retrograde	2890 Oct 24 15:46	6°♏47'42	
	2885 Jan 30 09:12	0°♏		min. Earth dist.	2890 Dec 21 18:00	1°♏54'42	4.08960 AU
retrograde	2885 Apr 24 19:08	9°♏27'55		opposition	2890 Dec 23 04:40	1°♏42'53	0°-28'-40
opposition	2885 Jun 24 16:05	4°♏35'37	0°24'03		2891 Jan 05 01:30	30°♏	
min. Earth dist.	2885 Jun 26 04:59	4°♏23'50	4.28188 AU	direct	2891 Feb 19 18:58	26°♏44'13	
	2885 Aug 09 19:44	30°♏			2891 Apr 06 10:40	0°♏	
direct	2885 Aug 25 14:31	29°♏37'04		evening set	2891 Jun 26 06:14	15°♏40'51	
	2885 Sep 10 08:24	0°♏					
desc. node	2885 Dec 26 02:14	17°♏13'46		conjunction	2891 Jul 10 00:02	18°♏48'47	0°00'-51
evening set	2885 Dec 29 01:38	17°♏54'27		minimum elong	2891 Jul 10 00:02	18°♏48'47	0°00'53
max. Earth dist.	2886 Jan 08 20:36	20°♏23'09	6.20941 AU	behind sun begin	2891 Jul 09 15:40	18°♏44'01	
				behind sun end	2891 Jul 10 08:25	18°♏53'32	
conjunction	2886 Jan 10 18:18	20°♏49'29	0°-1'-27	max. Earth dist.	2891 Jul 12 01:40	19°♏17'05	6.16184 AU
minimum elong	2886 Jan 10 18:18	20°♏49'30	0°01'28	asc. node	2891 Jul 18 23:59	20°♏51'48	
behind sun begin	2886 Jan 10 10:19	20°♏44'54		morning rise	2891 Jul 23 18:19	21°♏56'37	
behind sun end	2886 Jan 11 02:18	20°♏54'05			2891 Aug 30 00:41	0°♏	
morning rise	2886 Jan 23 10:48	23°♏44'43		retrograde	2891 Nov 26 22:02	10°♏34'16	
	2886 Feb 20 13:16	0°♏		opposition	2892 Jan 25 15:53	5°♏31'36	0°25'30
retrograde	2886 May 29 15:27	12°♏24'15		min. Earth dist.	2892 Jan 24 13:57	5°♏40'21	4.23567 AU
opposition	2886 Jul 29 08:55	7°♏30'01	0°-28'-55	direct	2892 Mar 25 10:45	0°♏30'23	
min. Earth dist.	2886 Jul 30 10:25	7°♏21'47	4.13451 AU		2892 Jul 12 16:38	15°♏	
direct	2886 Sep 27 23:37	2°♏33'58		evening set	2892 Jul 30 04:51	18°♏47'39	
	2887 Jan 02 18:09	15°♏					
evening set	2887 Jan 31 08:36	21°♏31'46		conjunction	2892 Aug 12 19:02	21°♏47'44	0°33'43
max. Earth dist.	2887 Feb 12 04:11	24°♏19'51	6.06530 AU	minimum elong	2892 Aug 12 19:00	21°♏47'43	0°33'43
				max. Earth dist.	2892 Aug 13 22:18	22°♏02'49	6.30665 AU
conjunction	2887 Feb 13 03:59	24°♏34'00	0°-36'-13	morning rise	2892 Aug 26 07:45	24°♏46'50	
minimum elong	2887 Feb 13 03:57	24°♏33'59	0°36'14		2892 Sep 19 17:04	0°♏	
morning rise	2887 Feb 26 00:39	27°♏37'10		retrograde	2892 Dec 27 06:57	12°♏22'12	
	2887 Mar 08 04:18	0°♏		opposition	2893 Feb 25 06:49	7°♏23'10	1°08'25
retrograde	2887 Jul 05 19:58	17°♏26'11		min. Earth dist.	2893 Feb 24 22:02	7°♏26'05	4.36747 AU
opposition	2887 Sep 04 03:06	12°♏28'44	-1°-15'-17	direct	2893 Apr 27 10:24	2°♏20'40	
min. Earth dist.	2887 Sep 04 09:14	12°♏26'43	4.00641 AU	evening set	2893 Sep 01 04:13	20°♏06'45	
direct	2887 Nov 02 08:19	7°♏34'38					
evening set	2888 Mar 06 18:21	27°♏07'48		conjunction	2893 Sep 14 11:28	22°♏59'31	0°56'47
	2888 Mar 18 15:21	0°♏		minimum elong	2893 Sep 14 11:26	22°♏59'30	0°56'47
				max. Earth dist.	2893 Sep 14 10:04	22°♏58'45	6.41545 AU
conjunction	2888 Mar 19 19:32	0°♏17'04	0°-59'-17	morning rise	2893 Sep 27 16:18	25°♏50'58	
minimum elong	2888 Mar 19 19:31	0°♏17'03	0°59'18		2893 Oct 17 07:33	0°♏	
max. Earth dist.	2888 Mar 20 03:53	0°♏22'07	5.96506 AU	retrograde	2894 Jan 26 11:37	12°♏46'29	
morning rise	2888 Apr 01 23:21	3°♏27'52		opposition	2894 Mar 27 20:24	7°♏50'59	1°30'15
retrograde	2888 Aug 12 03:26	24°♏04'33		min. Earth dist.	2894 Mar 28 05:48	7°♏47'55	4.44743 AU
min. Earth dist.	2888 Oct 10 07:13	19°♏08'59	3.94613 AU	direct	2894 May 29 00:37	2°♏48'19	
opposition	2888 Oct 11 00:31	19°♏03'11	-1°-34'-28	evening set	2894 Oct 02 14:07	20°♏17'54	
direct	2888 Dec 08 02:46	14°♏09'22					
	2889 Mar 27 06:32	0°♏		conjunction	2894 Oct 15 14:29	23°♏06'07	1°03'34
evening set	2889 Apr 12 21:16	3°♏56'22		minimum elong	2894 Oct 15 14:29	23°♏06'07	1°03'34
				max. Earth dist.	2894 Oct 14 12:30	22°♏52'05	6.46050 AU
conjunction	2889 Apr 26 06:21	7°♏10'01	0°-59'-43	morning rise	2894 Oct 28 11:55	25°♏52'59	
minimum elong	2889 Apr 26 06:22	7°♏10'01	0°59'43		2894 Nov 17 00:48	0°♏	
max. Earth dist.	2889 Apr 27 21:22	7°♏33'35	5.94979 AU	retrograde	2895 Feb 25 14:09	12°♏36'03	
morning rise	2889 May 09 18:38	10°♏25'16		opposition	2895 Apr 27 06:49	7°♏43'06	1°27'45
	2889 May 29 05:24	15°♏		min. Earth dist.	2895 Apr 28 08:07	7°♏35'00	4.45610 AU
	2889 Aug 24 19:35	0°♏		direct	2895 Jun 28 23:58	2°♏41'15	
retrograde	2889 Sep 18 20:31	1°♏01'13			2895 Oct 08 13:26	15°♏	

evening set	2895 Nov 02 04:27	20° \mathbb{M} 11'18		2901 May 13 22:02	15° \mathcal{B}	
max. Earth dist.	2895 Nov 13 02:18	22° \mathbb{M} 33'53	6.43144 AU	morning rise	2901 May 15 20:49	15° \mathcal{B} 28'00
					2901 Jul 22 23:18	0° \mathbb{I}
conjunction	2895 Nov 14 23:30	22° \mathbb{M} 58'34	0°53'15	retrograde	2901 Sep 24 20:24	6° \mathbb{I} 00'53
minimum elong	2895 Nov 14 23:31	22° \mathbb{M} 58'35	0°53'16	min. Earth dist.	2901 Nov 22 00:22	1° \mathbb{I} 07'31 3.98656 AU
morning rise	2895 Nov 27 16:21	25° \mathbb{M} 44'51		opposition	2901 Nov 23 09:05	0° \mathbb{I} 56'23 -1°-10'-45
	2895 Dec 17 14:54	0° \mathcal{A}			2901 Nov 30 07:45	30° \mathcal{R} \mathcal{B}
retrograde	2896 Mar 27 15:29	12° \mathcal{A} 43'56		direct	2902 Jan 20 07:48	26° \mathcal{B} 00'19
opposition	2896 May 27 12:24	7° \mathcal{A} 52'00	1°01'48		2902 Mar 11 09:34	0° \mathbb{I}
min. Earth dist.	2896 May 29 00:08	7° \mathcal{A} 40'37	4.39100 AU	evening set	2902 May 26 12:41	15° \mathbb{I} 29'57
direct	2896 Jul 29 03:10	2° \mathcal{A} 51'38				
evening set	2896 Dec 01 20:17	20° \mathcal{A} 39'27		conjunction	2902 Jun 09 05:18	18° \mathbb{I} 43'02 0°-32'-19
max. Earth dist.	2896 Dec 12 10:14	23° \mathcal{A} 01'04	6.33480 AU	minimum elong	2902 Jun 09 05:20	18° \mathbb{I} 43'03 0°32'19
				max. Earth dist.	2902 Jun 11 12:52	19° \mathbb{I} 15'42 6.03767 AU
conjunction	2896 Dec 14 12:54	23° \mathcal{A} 29'26	0°28'06	morning rise	2902 Jun 23 00:00	21° \mathbb{I} 56'52
minimum elong	2896 Dec 14 12:55	23° \mathcal{A} 29'27	0°28'05		2902 Jul 29 00:18	0° \mathcal{B}
morning rise	2896 Dec 27 04:00	26° \mathcal{A} 18'58		retrograde	2902 Oct 30 06:50	11° \mathcal{B} 37'13
	2897 Jan 12 22:48	0° \mathcal{B}		min. Earth dist.	2902 Dec 27 09:45	6° \mathcal{B} 44'24 4.10345 AU
retrograde	2897 Apr 29 09:38	14° \mathcal{B} 01'23		opposition	2902 Dec 28 20:26	6° \mathcal{B} 32'36 0°-21'-20
opposition	2897 Jun 29 08:06	9° \mathcal{B} 08'53	0°17'05	direct	2903 Feb 25 12:25	1° \mathcal{B} 33'34
min. Earth dist.	2897 Jun 30 18:59	8° \mathcal{B} 57'45	4.26791 AU	asc. node	2903 May 31 21:02	13° \mathcal{B} 35'31
direct	2897 Aug 30 02:29	4° \mathcal{B} 10'43		evening set	2903 Jul 02 03:13	20° \mathcal{B} 26'48
desc. node	2897 Nov 06 10:06	10° \mathcal{B} 40'14				
evening set	2898 Jan 02 12:40	22° \mathcal{B} 31'18		conjunction	2903 Jul 15 20:58	23° \mathcal{B} 34'02 0°04'15
max. Earth dist.	2898 Jan 13 10:25	25° \mathcal{B} 02'06	6.19503 AU	minimum elong	2903 Jul 15 20:59	23° \mathcal{B} 34'02 0°04'15
				behind sun begin	2903 Jul 15 12:46	23° \mathcal{B} 29'23
conjunction	2898 Jan 15 05:23	25° \mathcal{B} 26'58	0°-6'-23	behind sun end	2903 Jul 16 05:12	23° \mathcal{B} 38'42
minimum elong	2898 Jan 15 05:22	25° \mathcal{B} 26'57	0°06'23	max. Earth dist.	2903 Jul 17 20:11	24° \mathcal{B} 00'53 6.17706 AU
behind sun begin	2898 Jan 14 21:49	25° \mathcal{B} 22'37		morning rise	2903 Jul 29 14:51	26° \mathcal{B} 41'01
behind sun end	2898 Jan 15 12:54	25° \mathcal{B} 31'17			2903 Aug 13 12:35	0° \mathcal{Q}
morning rise	2898 Jan 27 22:07	28° \mathcal{B} 22'53			2903 Nov 21 17:14	15° \mathcal{Q}
	2898 Feb 03 23:56	0° \approx		retrograde	2903 Dec 02 09:31	15° \mathcal{Q} 11'14
	2898 Apr 26 19:52	15° \approx			2903 Dec 13 00:01	15° \mathcal{R} \mathcal{Q}
retrograde	2898 Jun 03 13:55	17° \approx 09'45		min. Earth dist.	2904 Jan 30 03:20	10° \mathcal{Q} 16'55 4.25078 AU
	2898 Jul 11 14:32	15° \mathcal{R} \approx		opposition	2904 Jan 31 02:45	10° \mathcal{Q} 09'02 0°32'18
opposition	2898 Aug 03 06:08	12° \approx 15'10	0°-35'-58	direct	2904 Mar 31 02:27	5° \mathcal{Q} 07'37
min. Earth dist.	2898 Aug 04 06:26	12° \approx 07'19	4.12062 AU		2904 Jun 25 21:32	15° \mathcal{Q}
direct	2898 Oct 02 18:10	7° \approx 19'24		evening set	2904 Aug 04 20:58	23° \mathcal{Q} 21'27
	2898 Dec 14 22:31	15° \approx				
evening set	2899 Feb 05 00:18	26° \approx 20'36		conjunction	2904 Aug 18 10:25	26° \mathcal{Q} 20'38 0°37'41
				minimum elong	2904 Aug 18 10:23	26° \mathcal{Q} 20'37 0°37'40
conjunction	2899 Feb 17 20:13	29° \approx 23'35	0°-40'-15	max. Earth dist.	2904 Aug 19 10:54	26° \mathcal{Q} 34'08 6.32053 AU
minimum elong	2899 Feb 17 20:12	29° \approx 23'33	0°40'16	morning rise	2904 Aug 31 22:13	29° \mathcal{Q} 18'47
max. Earth dist.	2899 Feb 16 23:29	29° \approx 11'13	6.05315 AU		2904 Sep 04 01:43	0° \mathcal{P}
	2899 Feb 20 09:22	0° \mathcal{H}		retrograde	2905 Jan 01 11:54	16° \mathcal{P} 48'17
morning rise	2899 Mar 02 17:38	2° \mathcal{H} 27'36		opposition	2905 Mar 02 13:52	11° \mathcal{P} 49'42 1°12'46
retrograde	2899 Jul 10 21:18	22° \mathcal{H} 23'05		min. Earth dist.	2905 Mar 02 06:30	11° \mathcal{P} 52'08 4.37932 AU
opposition	2899 Sep 09 03:47	17° \mathcal{H} 25'11	-1°-19'-44	direct	2905 May 02 20:24	6° \mathcal{P} 47'05
min. Earth dist.	2899 Sep 09 06:42	17° \mathcal{H} 24'13	3.99737 AU	evening set	2905 Sep 06 15:21	24° \mathcal{P} 30'39
direct	2899 Nov 07 04:06	12° \mathcal{H} 31'15				
	2900 Mar 03 19:17	0° \mathcal{Y}		conjunction	2905 Sep 19 21:39	27° \mathcal{P} 22'40 0°58'42
evening set	2900 Mar 12 15:05	2° \mathcal{Y} 06'37		minimum elong	2905 Sep 19 21:37	27° \mathcal{P} 22'39 0°58'42
				max. Earth dist.	2905 Sep 19 17:35	27° \mathcal{P} 20'28 6.42440 AU
conjunction	2900 Mar 25 17:07	5° \mathcal{Y} 16'31	-1°00'-46		2905 Oct 02 00:35	0° \mathcal{L}
minimum elong	2900 Mar 25 17:06	5° \mathcal{Y} 16'30	1°00'47	morning rise	2905 Oct 03 01:21	0° \mathcal{L} 13'19
max. Earth dist.	2900 Mar 26 04:14	5° \mathcal{Y} 23'15	5.95982 AU	retrograde	2906 Jan 31 16:23	17° \mathcal{L} 05'36
morning rise	2900 Apr 07 22:01	8° \mathcal{Y} 28'03		opposition	2906 Apr 02 02:09	12° \mathcal{L} 10'29 1°31'18
retrograde	2900 Aug 18 04:42	29° \mathcal{Y} 07'20		min. Earth dist.	2906 Apr 02 13:50	12° \mathcal{L} 06'42 4.45281 AU
min. Earth dist.	2900 Oct 16 06:07	24° \mathcal{Y} 11'59	3.94531 AU	direct	2906 Jun 03 09:56	7° \mathcal{L} 07'52
opposition	2900 Oct 17 01:25	24° \mathcal{Y} 05'30	-1°-34'-8	evening set	2906 Oct 07 21:18	24° \mathcal{L} 36'14
direct	2900 Dec 14 02:08	19° \mathcal{Y} 11'31				
	2901 Mar 10 18:17	0° \mathcal{B}		conjunction	2906 Oct 20 20:43	27° \mathcal{L} 24'03 1°03'05
evening set	2901 Apr 18 21:17	8° \mathcal{B} 58'27		minimum elong	2906 Oct 20 20:43	27° \mathcal{L} 24'03 1°03'05
				max. Earth dist.	2906 Oct 19 14:51	27° \mathcal{L} 07'55 6.46151 AU
conjunction	2901 May 02 07:38	12° \mathcal{B} 12'29	0°-57'-51		2906 Nov 01 21:46	0° \mathbb{M}
minimum elong	2901 May 02 07:40	12° \mathcal{B} 12'30	0°57'51	morning rise	2906 Nov 02 17:30	0° \mathbb{M} 10'36
max. Earth dist.	2901 May 04 02:25	12° \mathcal{B} 38'16	5.95363 AU		2907 Jan 26 10:01	15° \mathbb{M}

retrograde	2907 Mar 02 20:09	16° \mathbb{M} 53'48		opposition	2912 Oct 22 07:31	29° Υ 21'22	-1°-33'-3
	2907 Apr 07 09:35	15° \mathbb{R} \mathbb{M}		direct	2912 Dec 19 06:29	24° Υ 27'15	
opposition	2907 May 02 13:42	12° \mathbb{M} 00'58	1°25'25		2913 Feb 16 17:34	0° \mathcal{B}	
min. Earth dist.	2907 May 03 16:50	11° \mathbb{M} 52'16	4.45248 AU	evening set	2913 Apr 24 03:31	14° \mathcal{B} 14'14	
direct	2907 Jul 04 07:57	6° \mathbb{M} 59'10			2913 Apr 27 07:52	15° \mathcal{B}	
	2907 Sep 21 09:21	15° \mathbb{M}					
evening set	2907 Nov 07 09:59	24° \mathbb{M} 30'05		conjunction	2913 May 07 14:50	17° \mathcal{B} 28'33	0°-55'-26
max. Earth dist.	2907 Nov 18 07:12	26° \mathbb{M} 52'35	6.42321 AU	minimum elong	2913 May 07 14:52	17° \mathcal{B} 28'34	0°55'28
				max. Earth dist.	2913 May 09 11:48	17° \mathcal{B} 55'36	5.95850 AU
conjunction	2907 Nov 20 04:40	27° \mathbb{M} 17'28	0°50'31	morning rise	2913 May 21 05:16	20° \mathcal{B} 44'21	
minimum elong	2907 Nov 20 04:41	27° \mathbb{M} 17'29	0°50'31		2913 Jun 30 23:48	0° \mathbb{I}	
morning rise	2907 Dec 02 20:54	0° \mathcal{Z} 03'53		retrograde	2913 Sep 29 21:54	11° \mathbb{I} 12'55	
	2907 Dec 02 13:46	0° \mathcal{Z}		min. Earth dist.	2913 Nov 27 00:21	6° \mathbb{I} 20'07	3.99778 AU
retrograde	2908 Apr 02 00:04	17° \mathcal{Z} 06'46		opposition	2913 Nov 28 11:13	6° \mathbb{I} 08'14	-1°-4'-55
opposition	2908 Jun 01 22:44	12° \mathcal{Z} 14'48	0°56'30	direct	2914 Jan 25 10:13	1° \mathbb{I} 11'49	
min. Earth dist.	2908 Jun 03 10:33	12° \mathcal{Z} 03'24	4.37840 AU	evening set	2914 May 31 17:47	20° \mathbb{I} 37'37	
direct	2908 Aug 03 11:28	7° \mathcal{Z} 14'41					
evening set	2908 Dec 07 03:37	25° \mathcal{Z} 05'40		conjunction	2914 Jun 14 10:58	23° \mathbb{I} 50'09	0°-27'-30
max. Earth dist.	2908 Dec 17 16:38	27° \mathcal{Z} 27'22	6.31861 AU	minimum elong	2914 Jun 14 10:59	23° \mathbb{I} 50'10	0°27'31
				max. Earth dist.	2914 Jun 16 19:02	24° \mathbb{I} 23'00	6.05444 AU
conjunction	2908 Dec 19 19:55	27° \mathcal{Z} 56'12	0°23'41	morning rise	2914 Jun 28 05:51	27° \mathbb{I} 03'18	
minimum elong	2908 Dec 19 19:57	27° \mathcal{Z} 56'13	0°23'41		2914 Jul 11 01:40	0° \mathcal{E}	
	2908 Dec 29 00:15	0° \mathcal{Z}		retrograde	2914 Nov 04 02:12	16° \mathcal{E} 34'16	
morning rise	2909 Jan 01 11:10	0° \mathcal{Z} 46'25		min. Earth dist.	2915 Jan 01 06:15	11° \mathcal{E} 41'10	4.12392 AU
retrograde	2909 May 05 03:15	18° \mathcal{Z} 36'13		opposition	2915 Jan 02 15:33	11° \mathcal{E} 29'50	0°-13'-36
opposition	2909 Jul 05 00:33	13° \mathcal{Z} 43'28	0°09'54	direct	2915 Mar 02 12:24	6° \mathcal{E} 30'27	
min. Earth dist.	2909 Jul 06 11:30	13° \mathcal{Z} 32'18	4.24887 AU	asc. node	2915 Apr 10 21:03	8° \mathcal{E} 56'56	
direct	2909 Sep 04 16:38	8° \mathcal{Z} 45'32		evening set	2915 Jul 07 02:47	25° \mathcal{E} 17'33	
desc. node	2909 Sep 17 19:12	9° \mathcal{Z} 01'39					
evening set	2910 Jan 08 00:27	27° \mathcal{Z} 11'14		conjunction	2915 Jul 20 20:14	28° \mathcal{E} 23'39	0°09'21
max. Earth dist.	2910 Jan 19 00:39	29° \mathcal{Z} 44'06	6.17477 AU	minimum elong	2915 Jul 20 20:14	28° \mathcal{E} 23'39	0°09'21
				behind sun begin	2915 Jul 20 13:18	28° \mathcal{E} 19'44	
conjunction	2910 Jan 20 17:32	0° \approx 07'51	0°-11'-22	behind sun end	2915 Jul 21 03:10	28° \mathcal{E} 27'33	
minimum elong	2910 Jan 20 17:32	0° \approx 07'50	0°11'23	max. Earth dist.	2915 Jul 22 18:38	28° \mathcal{E} 49'53	6.19964 AU
behind sun begin	2910 Jan 20 11:38	0° \approx 04'26			2915 Jul 27 22:43	0° \mathcal{O}	
behind sun end	2910 Jan 20 23:26	0° \approx 11'15		morning rise	2915 Aug 03 13:26	1° \mathcal{O} 29'19	
	2910 Jan 20 04:01	0° \approx			2915 Oct 10 16:21	15° \mathcal{O}	
morning rise	2910 Feb 02 10:43	3° \approx 04'49		retrograde	2915 Dec 06 18:32	19° \mathcal{O} 49'11	
	2910 Mar 30 20:32	15° \approx			2916 Feb 03 00:40	15° \mathbb{R} \mathcal{O}	
retrograde	2910 Jun 09 13:54	22° \approx 01'18		opposition	2916 Feb 04 14:07	14° \mathcal{O} 47'26	0°38'57
opposition	2910 Aug 09 05:33	17° \approx 06'19	0°-43'-2	min. Earth dist.	2916 Feb 03 15:31	14° \mathcal{O} 55'01	4.27351 AU
min. Earth dist.	2910 Aug 10 03:07	16° \approx 59'20	4.10080 AU	direct	2916 Apr 04 17:46	9° \mathcal{O} 45'47	
	2910 Aug 26 00:34	15° \mathbb{R} \approx			2916 Jun 04 12:45	15° \mathcal{O}	
direct	2910 Oct 08 11:50	12° \approx 10'50		evening set	2916 Aug 09 12:50	27° \mathcal{O} 53'33	
	2910 Nov 20 02:15	15° \approx			2916 Aug 19 03:37	0° \mathbb{P}	
	2911 Feb 05 07:44	0° \mathbb{X}					
evening set	2911 Feb 10 19:14	1° \mathbb{X} 17'40		conjunction	2916 Aug 23 01:13	0° \mathbb{P} 51'26	0°41'26
				minimum elong	2916 Aug 23 01:11	0° \mathbb{P} 51'25	0°41'26
conjunction	2911 Feb 23 15:43	4° \mathbb{X} 21'40	0°-44'-10	max. Earth dist.	2916 Aug 23 21:17	1° \mathbb{P} 02'27	6.34159 AU
minimum elong	2911 Feb 23 15:41	4° \mathbb{X} 21'39	0°44'11	morning rise	2916 Sep 05 11:56	3° \mathbb{P} 48'14	
max. Earth dist.	2911 Feb 22 22:14	4° \mathbb{X} 11'13	6.03547 AU	retrograde	2917 Jan 05 17:15	21° \mathbb{P} 09'47	
morning rise	2911 Mar 08 14:04	7° \mathbb{X} 26'52		opposition	2917 Mar 06 19:53	16° \mathbb{P} 11'44	1°16'38
retrograde	2911 Jul 17 03:52	27° \mathbb{X} 31'03		min. Earth dist.	2917 Mar 06 15:54	16° \mathbb{P} 13'02	4.39715 AU
opposition	2911 Sep 15 08:43	22° \mathbb{X} 32'33	-1°-23'-51	direct	2917 May 07 08:11	11° \mathbb{P} 09'02	
min. Earth dist.	2911 Sep 15 08:43	22° \mathbb{X} 32'33	3.98362 AU	evening set	2917 Sep 10 23:50	28° \mathbb{P} 48'10	
direct	2911 Nov 13 05:11	17° \mathbb{X} 38'40			2917 Sep 16 13:23	0° \mathcal{A}	
	2912 Feb 15 09:25	0° \mathbb{Y}					
evening set	2912 Mar 17 17:05	7° \mathbb{Y} 17'57		conjunction	2917 Sep 24 05:08	1° \mathcal{A} 39'15	1°00'16
				minimum elong	2917 Sep 24 05:07	1° \mathcal{A} 39'14	1°00'16
conjunction	2912 Mar 30 20:22	10° \mathbb{Y} 28'47	-1°-1'-51	max. Earth dist.	2917 Sep 23 21:19	1° \mathcal{A} 35'01	6.43744 AU
minimum elong	2912 Mar 30 20:21	10° \mathbb{Y} 28'47	1°01'53	morning rise	2917 Oct 07 07:42	4° \mathcal{A} 28'56	
max. Earth dist.	2912 Mar 31 13:17	10° \mathbb{Y} 39'04	5.95144 AU	retrograde	2918 Feb 04 17:09	21° \mathcal{A} 17'13	
morning rise	2912 Apr 13 02:20	13° \mathbb{Y} 41'13		opposition	2918 Apr 06 05:24	16° \mathcal{A} 22'28	1°31'50
	2912 Jun 30 14:17	0° \mathcal{B}		min. Earth dist.	2918 Apr 06 19:05	16° \mathcal{A} 18'02	4.46041 AU
retrograde	2912 Aug 23 13:22	4° \mathcal{B} 23'38		direct	2918 Jun 07 15:10	11° \mathcal{A} 19'53	
	2912 Oct 17 12:29	30° \mathbb{R} \mathbb{Y}		evening set	2918 Oct 12 01:19	28° \mathcal{A} 46'38	
min. Earth dist.	2912 Oct 21 10:11	29° \mathbb{Y} 28'33	3.94354 AU		2918 Oct 17 17:48	0° \mathbb{M}	

conjunction	2918 Oct 24 23:57	1°♄34'04	1°02'17	retrograde	2924 Aug 28 22:32	9°♄48'17	
minimum elong	2918 Oct 24 23:57	1°♄34'05	1°02'17	opposition	2924 Oct 27 16:12	4°♄45'30	-1°-31'-6
max. Earth dist.	2918 Oct 23 15:30	1°♄16'32	6.46299 AU	min. Earth dist.	2924 Oct 26 14:50	4°♄54'04	3.94373 AU
morning rise	2918 Nov 06 19:48	4°♄20'15			2924 Dec 15 08:25	30°♄	
	2918 Dec 31 01:28	15°♄		direct	2924 Dec 24 13:05	29°♄51'08	
retrograde	2919 Mar 06 23:04	21°♄03'51			2925 Jan 02 18:15	0°♄	
opposition	2919 May 06 17:45	16°♄11'17	1°22'41		2925 Apr 09 20:47	15°♄	
min. Earth dist.	2919 May 07 23:19	16°♄01'50	4.44764 AU	evening set	2925 Apr 29 12:30	19°♄37'09	
	2919 May 16 02:51	15°♄					
direct	2919 Jul 08 12:57	11°♄09'41		conjunction	2925 May 13 00:58	22°♄51'34	0°-52'-30
	2919 Aug 30 06:13	15°♄		minimum elong	2925 May 13 01:00	22°♄51'35	0°52'31
evening set	2919 Nov 11 13:00	28°♄42'12		max. Earth dist.	2925 May 15 01:49	23°♄20'54	5.96690 AU
	2919 Nov 17 11:26	0°♄		morning rise	2925 May 26 16:13	26°♄07'20	
max. Earth dist.	2919 Nov 22 06:00	1°♄02'51	6.41216 AU		2925 Jun 12 05:01	0°♄	
				retrograde	2925 Oct 05 01:35	16°♄29'36	
conjunction	2919 Nov 24 07:06	1°♄29'49	0°47'35	min. Earth dist.	2925 Dec 02 03:29	11°♄36'38	4.01301 AU
minimum elong	2919 Nov 24 07:08	1°♄29'50	0°47'35	opposition	2925 Dec 03 14:33	11°♄24'40	0°-58'-27
morning rise	2919 Dec 06 23:12	4°♄16'35		direct	2926 Jan 30 16:31	6°♄27'47	
retrograde	2920 Apr 06 09:17	21°♄24'40		evening set	2926 Jun 06 00:02	25°♄48'06	
opposition	2920 Jun 06 07:27	16°♄32'41	0°51'01				
min. Earth dist.	2920 Jun 07 20:34	16°♄20'52	4.36160 AU	conjunction	2926 Jun 19 17:38	28°♄59'52	0°-22'-27
direct	2920 Aug 07 18:32	11°♄32'46		minimum elong	2926 Jun 19 17:39	28°♄59'53	0°22'28
evening set	2920 Dec 11 09:17	29°♄28'37		max. Earth dist.	2926 Jun 22 02:55	29°♄33'14	6.07483 AU
	2920 Dec 13 17:18	0°♄			2926 Jun 24 00:54	0°♄	
max. Earth dist.	2920 Dec 21 23:16	1°♄51'31	6.29736 AU	morning rise	2926 Jul 03 12:35	2°♄12'04	
				retrograde	2926 Nov 08 19:38	21°♄32'06	
conjunction	2920 Dec 24 01:45	2°♄20'01	0°19'13	min. Earth dist.	2927 Jan 06 01:10	16°♄39'10	4.14703 AU
minimum elong	2920 Dec 24 01:46	2°♄20'02	0°19'13	opposition	2927 Jan 07 10:22	16°♄27'53	0°-5'-44
morning rise	2921 Jan 05 17:00	5°♄11'08		asc. node	2927 Feb 17 23:56	11°♄58'39	
retrograde	2921 May 09 19:45	23°♄10'26		direct	2927 Mar 07 10:54	11°♄28'06	
opposition	2921 Jul 09 16:46	18°♄17'32	0°02'42		2927 Jul 11 11:10	0°♄	
min. Earth dist.	2921 Jul 11 02:49	18°♄06'38	4.22450 AU	evening set	2927 Jul 12 02:09	0°♄08'23	
desc. node	2921 Jul 29 23:18	15°♄48'47					
direct	2921 Sep 09 03:55	13°♄19'58		conjunction	2927 Jul 25 18:58	3°♄13'11	0°14'25
	2922 Jan 04 08:31	0°♄		minimum elong	2927 Jul 25 18:57	3°♄13'10	0°14'25
evening set	2922 Jan 12 13:02	1°♄52'57		behind sun begin	2927 Jul 25 15:29	3°♄11'14	
max. Earth dist.	2922 Jan 23 14:46	4°♄27'38	6.14926 AU	behind sun end	2927 Jul 25 22:25	3°♄15'07	
				max. Earth dist.	2927 Jul 27 12:59	3°♄36'50	6.22329 AU
conjunction	2922 Jan 25 06:23	4°♄50'46	0°-16'-15	morning rise	2927 Aug 08 11:33	6°♄17'30	
minimum elong	2922 Jan 25 06:21	4°♄50'45	0°16'16		2927 Sep 18 15:26	15°♄	
morning rise	2922 Feb 07 00:17	7°♄49'06		retrograde	2927 Dec 11 05:20	24°♄27'10	
	2922 Mar 11 01:13	15°♄		min. Earth dist.	2928 Feb 08 06:05	19°♄32'23	4.29558 AU
retrograde	2922 Jun 14 17:27	26°♄57'29		opposition	2928 Feb 09 01:33	19°♄25'52	0°45'25
opposition	2922 Aug 14 06:35	22°♄02'06	0°-49'-52		2928 Mar 21 01:18	15°♄	
min. Earth dist.	2922 Aug 15 01:43	21°♄55'53	4.07621 AU	direct	2928 Apr 09 11:20	14°♄23'56	
direct	2922 Oct 13 07:36	17°♄06'53			2928 Apr 29 00:52	15°♄	
	2923 Jan 19 05:22	0°♄			2928 Aug 02 21:27	0°♄	
evening set	2923 Feb 15 16:38	6°♄21'20		evening set	2928 Aug 14 04:21	2°♄26'03	
conjunction	2923 Feb 28 14:10	9°♄26'43	0°-47'-47	conjunction	2928 Aug 27 15:54	5°♄22'46	0°45'00
minimum elong	2923 Feb 28 14:08	9°♄26'41	0°47'48	minimum elong	2928 Aug 27 15:52	5°♄22'45	0°45'01
max. Earth dist.	2923 Feb 28 02:19	9°♄19'35	6.01425 AU	max. Earth dist.	2928 Aug 28 09:05	5°♄32'10	6.36041 AU
morning rise	2923 Mar 13 13:26	12°♄33'18		morning rise	2928 Sep 10 01:20	8°♄18'17	
	2923 Jun 09 23:03	0°♄		retrograde	2929 Jan 09 21:18	25°♄32'57	
retrograde	2923 Jul 22 14:21	2°♄47'16		opposition	2929 Mar 11 02:21	20°♄35'24	1°20'11
	2923 Sep 03 12:06	30°♄		min. Earth dist.	2929 Mar 11 00:11	20°♄36'06	4.41164 AU
opposition	2923 Sep 20 16:35	27°♄48'17	-1°-27'-19	direct	2929 May 11 17:33	15°♄32'39	
min. Earth dist.	2923 Sep 20 13:27	27°♄49'19	3.96827 AU		2929 Aug 31 12:46	0°♄	
direct	2923 Nov 18 08:13	22°♄54'35		evening set	2929 Sep 15 09:29	3°♄08'34	
	2924 Jan 25 17:37	0°♄					
evening set	2924 Mar 22 22:40	12°♄38'17		conjunction	2929 Sep 28 13:37	5°♄58'51	1°01'34
				minimum elong	2929 Sep 28 13:36	5°♄58'51	1°01'34
conjunction	2924 Apr 05 02:59	15°♄50'01	-1°-2'-26	max. Earth dist.	2929 Sep 28 00:52	5°♄51'58	6.44654 AU
minimum elong	2924 Apr 05 02:59	15°♄50'01	1°02'26	morning rise	2929 Oct 11 15:12	8°♄47'47	
max. Earth dist.	2924 Apr 06 00:00	16°♄02'46	5.94327 AU	retrograde	2930 Feb 08 22:27	25°♄33'25	
morning rise	2924 Apr 18 10:26	19°♄03'26		opposition	2930 Apr 10 10:46	20°♄39'04	1°31'59
	2924 Jun 05 20:28	0°♄		min. Earth dist.	2930 Apr 11 04:00	20°♄33'30	4.46374 AU

direct	2930 Jun 11 23:49	15°♄36'31		conjunction	2936 Apr 10 09:53	21°♃09'42	-1°-2'-32
	2930 Oct 01 22:05	0°♄		minimum elong	2936 Apr 10 09:53	21°♃09'42	1°02'33
evening set	2930 Oct 16 07:28	3°♄02'53		max. Earth dist.	2936 Apr 11 12:53	21°♃26'05	5.94286 AU
max. Earth dist.	2930 Oct 27 17:20	5°♄30'38	6.46017 AU	morning rise	2936 Apr 23 18:18	24°♃23'36	
					2936 May 17 13:55	0°♄	
conjunction	2930 Oct 29 05:23	5°♄50'08	1°01'10		2936 Aug 25 14:00	15°♄	
minimum elong	2930 Oct 29 05:24	5°♄50'09	1°01'11	retrograde	2936 Sep 03 06:21	15°♄07'30	
morning rise	2930 Nov 11 00:36	8°♄36'11			2936 Sep 11 21:26	15°♄	
	2930 Dec 11 19:41	15°♄		opposition	2936 Nov 01 22:44	10°♄04'15	-1°-28'-27
retrograde	2931 Mar 11 05:36	25°♄21'38		min. Earth dist.	2936 Oct 31 19:53	10°♄13'21	3.95089 AU
opposition	2931 May 11 01:25	20°♄29'11	1°19'30	direct	2936 Dec 29 20:10	5°♄09'38	
min. Earth dist.	2931 May 12 08:13	20°♄19'21	4.43898 AU		2937 Mar 22 01:05	15°♄	
direct	2931 Jul 12 19:41	15°♄27'43		evening set	2937 May 04 18:55	24°♄52'17	
	2931 Nov 01 15:57	0°♄					
evening set	2931 Nov 15 19:14	3°♄02'48		conjunction	2937 May 18 08:19	28°♄06'29	0°-49'-14
max. Earth dist.	2931 Nov 26 11:51	5°♄23'41	6.39832 AU	minimum elong	2937 May 18 08:21	28°♄06'31	0°49'15
				max. Earth dist.	2937 May 20 12:26	28°♄37'38	5.98075 AU
conjunction	2931 Nov 28 13:02	5°♄50'48	0°44'18		2937 May 26 06:28	0°♄	
minimum elong	2931 Nov 28 13:03	5°♄50'49	0°44'17	morning rise	2937 Jun 01 00:22	1°♄21'56	
morning rise	2931 Dec 11 04:43	8°♄38'00		retrograde	2937 Oct 10 00:26	21°♄35'54	
retrograde	2932 Apr 10 22:13	25°♄52'08		min. Earth dist.	2937 Dec 07 01:47	16°♄43'15	4.03193 AU
opposition	2932 Jun 10 20:31	21°♄00'11	0°45'00	opposition	2937 Dec 08 13:52	16°♄30'58	0°-51'-45
min. Earth dist.	2932 Jun 12 10:22	20°♄48'08	4.34332 AU	direct	2938 Feb 04 17:24	11°♄33'42	
direct	2932 Aug 12 05:18	16°♄00'34			2938 Jun 07 15:09	0°♄	
	2932 Nov 27 13:40	0°♄		evening set	2938 Jun 11 02:08	0°♄47'44	
evening set	2932 Dec 15 19:17	4°♄01'31					
max. Earth dist.	2932 Dec 26 08:23	6°♄24'41	6.27606 AU	conjunction	2938 Jun 24 19:45	3°♄58'32	0°-17'-24
				minimum elong	2938 Jun 24 19:47	3°♄58'33	0°17'25
conjunction	2932 Dec 28 11:37	6°♄53'45	0°14'26	max. Earth dist.	2938 Jun 27 02:26	4°♄30'13	6.09687 AU
minimum elong	2932 Dec 28 11:37	6°♄53'45	0°14'27	morning rise	2938 Jul 08 14:47	7°♄09'42	
behind sun begin	2932 Dec 28 07:51	6°♄51'38		retrograde	2938 Nov 13 09:35	26°♄19'03	
behind sun end	2932 Dec 28 15:23	6°♄55'53		asc. node	2938 Dec 29 13:13	23°♄02'36	
morning rise	2933 Jan 10 03:13	9°♄45'50		min. Earth dist.	2939 Jan 10 17:59	21°♄25'44	4.16980 AU
retrograde	2933 May 14 17:44	27°♄54'41		opposition	2939 Jan 12 01:09	21°♄15'09	0°01'51
desc. node	2933 Jun 08 09:38	26°♄58'34		direct	2939 Mar 12 06:55	16°♄14'59	
opposition	2933 Jul 14 13:31	23°♄01'32	0°-4'-50		2939 Jun 24 20:10	0°♄	
min. Earth dist.	2933 Jul 15 21:54	22°♄51'08	4.20165 AU	evening set	2939 Jul 16 21:13	4°♄49'03	
direct	2933 Sep 13 20:03	18°♄04'17					
	2933 Dec 18 05:52	0°♄		conjunction	2939 Jul 30 13:40	7°♄52'42	0°19'14
evening set	2934 Jan 17 05:20	6°♄43'50		minimum elong	2939 Jul 30 13:39	7°♄52'41	0°19'13
				max. Earth dist.	2939 Aug 01 05:31	8°♄15'01	6.24505 AU
conjunction	2934 Jan 29 23:15	9°♄42'47	0°-21'-14	morning rise	2939 Aug 13 05:15	10°♄55'41	
minimum elong	2934 Jan 29 23:14	9°♄42'46	0°21'16		2939 Aug 31 20:57	15°♄	
max. Earth dist.	2934 Jan 28 12:02	9°♄22'07	6.12706 AU	retrograde	2939 Dec 15 12:17	28°♄56'24	
morning rise	2934 Feb 11 17:37	12°♄42'19		opposition	2940 Feb 13 09:28	23°♄55'41	0°51'23
	2934 Feb 21 15:25	15°♄		min. Earth dist.	2940 Feb 12 16:03	24°♄01'30	4.31459 AU
	2934 May 14 16:21	0°♄		direct	2940 Apr 13 22:52	18°♄53'38	
retrograde	2934 Jun 20 00:20	2°♄01'13			2940 Jul 16 22:05	0°♄	
	2934 Jul 26 11:26	30°♄		evening set	2940 Aug 18 16:50	6°♄51'25	
opposition	2934 Aug 19 11:13	27°♄05'27	0°-56'-35				
min. Earth dist.	2934 Aug 20 03:42	27°♄00'05	4.05691 AU	conjunction	2940 Sep 01 03:16	9°♄47'08	0°48'13
direct	2934 Oct 18 06:57	22°♄10'39		minimum elong	2940 Sep 01 03:14	9°♄47'07	0°48'13
	2934 Dec 30 13:25	0°♄		max. Earth dist.	2940 Sep 01 14:27	9°♄53'14	6.37519 AU
evening set	2935 Feb 20 16:45	11°♄30'28		morning rise	2940 Sep 14 11:48	12°♄41'39	
				retrograde	2941 Jan 14 02:19	29°♄51'13	
conjunction	2935 Mar 05 14:53	14°♄36'50	0°-51'-9	opposition	2941 Mar 15 07:06	24°♄54'11	1°23'14
minimum elong	2935 Mar 05 14:51	14°♄36'48	0°51'10	min. Earth dist.	2941 Mar 15 08:40	24°♄53'40	4.42148 AU
max. Earth dist.	2935 Mar 05 06:46	14°♄31'56	5.99967 AU	direct	2941 May 16 02:14	19°♄51'24	
morning rise	2935 Mar 18 15:18	17°♄44'32			2941 Aug 14 10:46	0°♄	
	2935 May 13 06:04	0°♄		evening set	2941 Sep 19 16:55	7°♄25'39	
retrograde	2935 Jul 27 23:04	8°♄05'22					
opposition	2935 Sep 26 01:10	3°♄05'49	-1°-30'-10	conjunction	2941 Oct 02 20:19	10°♄15'26	1°02'31
min. Earth dist.	2935 Sep 25 17:28	3°♄08'22	3.96038 AU	minimum elong	2941 Oct 02 20:19	10°♄15'26	1°02'31
	2935 Oct 21 08:22	30°♄		max. Earth dist.	2941 Oct 02 04:48	10°♄07'03	6.45073 AU
direct	2935 Nov 23 12:42	28°♄12'12		morning rise	2941 Oct 15 20:49	13°♄03'50	
	2935 Dec 26 10:40	0°♄		retrograde	2942 Feb 13 01:34	29°♄48'35	
evening set	2936 Mar 28 04:23	17°♄57'25		opposition	2942 Apr 14 15:34	24°♄54'36	1°31'40

min. Earth dist.	2942 Apr 15 10:13	24°♌48'35	4.46238 AU	min. Earth dist.	2947 Sep 30 21:55	8°♑22'29	3.95553 AU
direct	2942 Jun 16 04:38	19°♌52'13		direct	2947 Nov 28 17:34	3°♑25'32	
	2942 Sep 14 21:15	0°♌		evening set	2948 Apr 02 08:11	23°♑11'17	
evening set	2942 Oct 20 13:18	7°♌19'38					
max. Earth dist.	2942 Oct 31 19:53	9°♌45'56	6.45339 AU	conjunction	2948 Apr 15 14:45	26°♑24'01	-1°-2'-8
				minimum elong	2948 Apr 15 14:46	26°♑24'01	1°02'10
conjunction	2942 Nov 02 10:27	10°♌06'52	0°59'44	max. Earth dist.	2948 Apr 16 21:54	26°♑42'53	5.94412 AU
minimum elong	2942 Nov 02 10:28	10°♌06'53	0°59'44	morning rise	2948 Apr 29 00:23	29°♑38'22	
morning rise	2942 Nov 15 05:06	12°♌52'57			2948 Apr 30 12:24	0°♌	
	2942 Nov 25 02:29	15°♌			2948 Jul 10 13:35	15°♌	
retrograde	2943 Mar 15 14:29	29°♌41'31		retrograde	2948 Sep 08 10:19	20°♌20'26	
opposition	2943 May 15 09:45	24°♌49'18	1°15'53	min. Earth dist.	2948 Nov 05 21:13	15°♌26'43	3.95836 AU
min. Earth dist.	2943 May 16 18:46	24°♌38'46	4.42726 AU	opposition	2948 Nov 07 02:27	15°♌16'49	-1°-25'-9
direct	2943 Jul 17 04:09	19°♌48'04			2948 Nov 09 04:08	15°♌	
	2943 Oct 15 12:21	0°♌		direct	2949 Jan 03 22:31	10°♌21'54	
evening set	2943 Nov 20 02:10	7°♌26'31			2949 Feb 27 00:25	15°♌	
max. Earth dist.	2943 Nov 30 16:48	9°♌46'53	6.38255 AU	evening set	2949 May 09 23:24	0°♐01'28	
					2949 May 09 20:54	0°♐	
conjunction	2943 Dec 02 19:39	10°♌15'01	0°40'45	conjunction	2949 May 23 13:31	3°♐15'26	0°-45'-39
minimum elong	2943 Dec 02 19:40	10°♌15'02	0°40'45	minimum elong	2949 May 23 13:33	3°♐15'28	0°45'39
morning rise	2943 Dec 15 11:15	13°♌02'48		max. Earth dist.	2949 May 25 17:42	3°♐46'31	5.99349 AU
	2944 Mar 30 15:13	0°♐		morning rise	2949 Jun 06 06:23	6°♐30'36	
retrograde	2944 Apr 15 12:36	0°♐23'37		retrograde	2949 Oct 14 21:06	26°♐36'58	
	2944 May 01 10:51	30°♐		min. Earth dist.	2949 Dec 11 23:11	21°♐44'10	4.04838 AU
opposition	2944 Jun 15 10:57	25°♐31'33	0°38'41	opposition	2949 Dec 13 10:56	21°♐31'58	0°-44'-49
min. Earth dist.	2944 Jun 16 23:45	25°♐19'49	4.32454 AU	direct	2950 Feb 09 18:02	16°♐34'14	
direct	2944 Aug 16 15:54	20°♐32'14			2950 May 21 15:07	0°♐	
	2944 Nov 09 18:41	0°♐		evening set	2950 Jun 16 02:55	5°♐43'13	
evening set	2944 Dec 20 06:01	8°♐38'11					
max. Earth dist.	2944 Dec 30 22:16	11°♐03'45	6.25590 AU	conjunction	2950 Jun 29 20:54	8°♐53'16	0°-12'-18
				minimum elong	2950 Jun 29 20:55	8°♐53'17	0°12'19
conjunction	2945 Jan 01 22:29	11°♐31'15	0°09'33	behind sun begin	2950 Jun 29 15:30	8°♐50'11	
minimum elong	2945 Jan 01 22:30	11°♐31'15	0°09'33	behind sun end	2950 Jun 30 02:20	8°♐56'24	
behind sun begin	2945 Jan 01 15:51	11°♐27'29		max. Earth dist.	2950 Jul 02 03:16	9°♐24'39	6.11574 AU
behind sun end	2945 Jan 02 05:08	11°♐35'02		morning rise	2950 Jul 13 15:40	12°♐03'29	
morning rise	2945 Jan 14 14:11	14°♐24'14			2950 Oct 23 08:46	0°♑	
	2945 Apr 07 04:35	0°♑		asc. node	2950 Nov 09 00:47	0°♑55'29	
desc. node	2945 Apr 17 23:42	1°♑09'58		retrograde	2950 Nov 17 23:45	1°♑03'24	
retrograde	2945 May 19 16:58	2°♑42'07			2950 Dec 13 07:55	30°♑	
	2945 Jul 01 18:19	30°♑		min. Earth dist.	2951 Jan 15 09:30	26°♑09'52	4.18909 AU
opposition	2945 Jul 19 11:24	27°♑48'41	0°-12'-24	opposition	2951 Jan 16 15:02	25°♑59'52	0°09'22
min. Earth dist.	2945 Jul 20 18:28	27°♑38'42	4.18144 AU	direct	2951 Mar 17 00:37	20°♑59'23	
direct	2945 Sep 18 13:46	22°♑51'49			2951 Jun 06 11:34	0°♑	
	2945 Nov 28 13:34	0°♑		evening set	2951 Jul 21 16:14	9°♑28'31	
evening set	2946 Jan 21 22:15	11°♑36'37					
max. Earth dist.	2946 Feb 02 07:20	14°♑17'00	6.10848 AU	conjunction	2951 Aug 04 07:59	12°♑31'08	0°23'55
				minimum elong	2951 Aug 04 07:57	12°♑31'07	0°23'55
conjunction	2946 Feb 03 16:25	14°♑36'29	0°-26'-5	max. Earth dist.	2951 Aug 05 19:04	12°♑50'42	6.26310 AU
minimum elong	2946 Feb 03 16:24	14°♑36'29	0°26'06		2951 Aug 15 11:20	15°♑	
	2946 Feb 05 08:19	15°♑		morning rise	2951 Aug 17 22:58	15°♑33'02	
morning rise	2946 Feb 16 11:34	17°♑37'06			2951 Nov 02 02:39	0°♒	
	2946 Apr 15 09:16	0°♒		retrograde	2951 Dec 19 20:06	3°♒26'09	
retrograde	2946 Jun 25 03:40	7°♒04'53			2952 Feb 05 18:45	30°♒	
opposition	2946 Aug 24 15:05	2°♒08'34	-1°-2'-50	opposition	2952 Feb 17 18:05	28°♒25'54	0°57'04
min. Earth dist.	2946 Aug 25 03:31	2°♒04'30	4.04161 AU	min. Earth dist.	2952 Feb 17 03:19	28°♒30'50	4.33011 AU
	2946 Sep 10 14:57	30°♒		direct	2952 Apr 18 11:30	23°♒23'39	
direct	2946 Oct 23 05:44	27°♒13'58			2952 Jun 27 05:29	0°♒	
	2946 Dec 04 00:54	0°♒		evening set	2952 Aug 23 05:56	11°♒18'09	
evening set	2947 Feb 25 16:03	16°♒37'40					
				conjunction	2952 Sep 05 15:37	14°♒13'01	0°51'11
conjunction	2947 Mar 10 15:07	19°♒44'52	0°-54'-5	minimum elong	2952 Sep 05 15:35	14°♒13'00	0°51'10
minimum elong	2947 Mar 10 15:05	19°♒44'51	0°54'06	max. Earth dist.	2952 Sep 06 00:07	14°♒17'39	6.38711 AU
max. Earth dist.	2947 Mar 10 12:47	19°♒43'28	5.98901 AU	morning rise	2952 Sep 18 22:53	17°♒06'36	
morning rise	2947 Mar 23 16:21	22°♒53'27			2952 Nov 25 18:09	0°♒	
	2947 Apr 23 07:39	0°♒		retrograde	2953 Jan 18 07:10	4°♒11'53	
retrograde	2947 Aug 02 07:59	13°♒19'21			2953 Mar 13 20:09	30°♒	
opposition	2947 Oct 01 07:43	8°♒19'13	-1°-32'-13				




























































































































opposition	2953 Mar 19 13:11	29° \mathring{M} 15'23	1°25'52		2958 Mar 26 14:05	0° \mathring{K}	
min. Earth dist.	2953 Mar 19 16:43	29° \mathring{M} 14'14	4.42927 AU	retrograde	2958 Jun 30 06:12	12° \mathring{K} 00'50	
direct	2953 May 20 10:39	24° \mathring{M} 12'41		opposition	2958 Aug 29 15:47	7° \mathring{K} 04'03	-1°-8'-23
	2953 Jul 25 04:57	0° \mathring{L}		min. Earth dist.	2958 Aug 30 02:31	7° \mathring{K} 00'33	4.03086 AU
evening set	2953 Sep 24 02:09	11° \mathring{L} 45'45		direct	2958 Oct 28 03:39	2° \mathring{K} 09'40	
max. Earth dist.	2953 Oct 06 08:22	14° \mathring{L} 24'10	6.45385 AU	evening set	2959 Mar 02 11:45	21° \mathring{K} 35'52	
conjunction	2953 Oct 07 04:28	14° \mathring{L} 35'01	1°03'09	conjunction	2959 Mar 15 11:34	24° \mathring{K} 43'45	0°-56'-30
minimum elong	2953 Oct 07 04:27	14° \mathring{L} 35'01	1°03'10	minimum elong	2959 Mar 15 11:33	24° \mathring{K} 43'44	0°56'30
morning rise	2953 Oct 20 04:12	17° \mathring{L} 22'59		max. Earth dist.	2959 Mar 15 12:34	24° \mathring{K} 44'21	5.98175 AU
	2953 Dec 26 02:07	0° \mathring{M}		morning rise	2959 Mar 28 13:50	27° \mathring{K} 53'06	
retrograde	2954 Feb 17 08:45	4° \mathring{M} 07'06			2959 Apr 06 10:49	0° \mathring{Y}	
	2954 Apr 12 21:14	30° \mathring{R} \mathring{L}		retrograde	2959 Aug 07 10:17	18° \mathring{Y} 22'44	
opposition	2954 Apr 18 22:24	29° \mathring{L} 13'31	1°30'52	opposition	2959 Oct 06 09:19	13° \mathring{Y} 22'08	-1°-33'-27
min. Earth dist.	2954 Apr 19 19:49	29° \mathring{L} 06'37	4.46103 AU	min. Earth dist.	2959 Oct 05 20:27	13° \mathring{Y} 26'26	3.95286 AU
direct	2954 Jun 20 13:24	24° \mathring{L} 11'17		direct	2959 Dec 03 15:22	8° \mathring{Y} 28'26	
	2954 Aug 25 17:33	0° \mathring{M}		evening set	2960 Apr 07 07:52	28° \mathring{Y} 14'28	
evening set	2954 Oct 24 20:24	11° \mathring{M} 39'30			2960 Apr 14 14:45	0° \mathring{B}	
max. Earth dist.	2954 Nov 05 01:28	14° \mathring{M} 05'13	6.44784 AU				
conjunction	2954 Nov 06 17:04	14° \mathring{M} 26'44	0°57'59	conjunction	2960 Apr 20 15:24	1° \mathring{B} 27'34	-1°-1'-17
minimum elong	2954 Nov 06 17:05	14° \mathring{M} 26'45	0°57'58	minimum elong	2960 Apr 20 15:25	1° \mathring{B} 27'35	1°01'18
	2954 Nov 09 06:14	15° \mathring{M}		max. Earth dist.	2960 Apr 22 00:30	1° \mathring{B} 47'36	5.94614 AU
morning rise	2954 Nov 19 11:00	17° \mathring{M} 12'49		morning rise	2960 May 04 02:09	4° \mathring{B} 42'20	
	2955 Jan 25 23:07	0° \mathring{J}			2960 Jun 18 12:39	15° \mathring{B}	
retrograde	2955 Mar 19 22:57	4° \mathring{J} 04'06		retrograde	2960 Sep 13 09:17	25° \mathring{B} 22'34	
	2955 May 13 12:30	30° \mathring{R} \mathring{M}		min. Earth dist.	2960 Nov 10 19:01	20° \mathring{B} 28'52	3.96484 AU
opposition	2955 May 19 19:42	29° \mathring{M} 12'01	1°11'50	opposition	2960 Nov 12 01:06	20° \mathring{B} 18'39	-1°-21'-23
min. Earth dist.	2955 May 21 04:20	29° \mathring{M} 01'36	4.41814 AU	direct	2961 Jan 08 21:53	15° \mathring{B} 23'24	
direct	2955 Jul 21 12:03	24° \mathring{M} 11'07			2961 Apr 23 09:10	0° \mathring{H}	
	2955 Sep 25 07:10	0° \mathring{J}		evening set	2961 May 14 23:40	5° \mathring{H} 00'49	
evening set	2955 Nov 24 09:48	11° \mathring{J} 51'51		conjunction	2961 May 28 14:50	8° \mathring{H} 14'44	0°-41'-53
max. Earth dist.	2955 Dec 05 00:42	14° \mathring{J} 12'48	6.37070 AU	minimum elong	2961 May 28 14:52	8° \mathring{H} 14'46	0°41'55
conjunction	2955 Dec 07 02:53	14° \mathring{J} 40'39	0°37'00	max. Earth dist.	2961 May 30 21:10	8° \mathring{H} 46'59	6.00402 AU
minimum elong	2955 Dec 07 02:54	14° \mathring{J} 40'40	0°37'00	morning rise	2961 Jun 11 08:13	11° \mathring{H} 29'40	
morning rise	2955 Dec 19 18:15	17° \mathring{J} 28'50			2961 Sep 19 04:05	0° \mathring{S}	
	2956 Feb 21 11:38	0° \mathring{S}		retrograde	2961 Oct 19 16:16	1° \mathring{S} 29'37	
retrograde	2956 Apr 20 04:14	4° \mathring{S} 55'07			2961 Nov 18 20:30	30° \mathring{R} \mathring{H}	
opposition	2956 Jun 20 01:53	0° \mathring{S} 03'00	0°32'10	min. Earth dist.	2961 Dec 16 17:24	26° \mathring{H} 36'39	4.06173 AU
	2956 Jun 20 11:18	30° \mathring{R} \mathring{J}		opposition	2961 Dec 18 04:19	26° \mathring{H} 24'45	0°-37'-55
min. Earth dist.	2956 Jun 21 14:56	29° \mathring{J} 51'11	4.31059 AU	direct	2962 Feb 14 13:47	21° \mathring{H} 26'39	
direct	2956 Aug 21 05:04	25° \mathring{J} 04'04			2962 May 02 23:19	0° \mathring{S}	
	2956 Oct 19 08:51	0° \mathring{S}		evening set	2962 Jun 21 00:45	10° \mathring{S} 32'03	
evening set	2956 Dec 24 16:22	13° \mathring{S} 13'18		conjunction	2962 Jul 04 18:43	13° \mathring{S} 41'28	0°-7'-20
max. Earth dist.	2957 Jan 04 09:14	15° \mathring{S} 39'45	6.24101 AU	minimum elong	2962 Jul 04 18:44	13° \mathring{S} 41'29	0°07'21
conjunction	2957 Jan 06 08:47	16° \mathring{S} 06'58	0°04'43	behind sun begin	2962 Jul 04 11:06	13° \mathring{S} 37'07	
minimum elong	2957 Jan 06 08:47	16° \mathring{S} 06'57	0°04'42	behind sun end	2962 Jul 05 02:23	13° \mathring{S} 45'51	
behind sun begin	2957 Jan 06 00:59	16° \mathring{S} 02'31		max. Earth dist.	2962 Jul 06 22:38	14° \mathring{S} 11'18	6.13074 AU
behind sun end	2957 Jan 06 16:35	16° \mathring{S} 11'24		morning rise	2962 Jul 18 13:34	16° \mathring{S} 50'59	
morning rise	2957 Jan 19 00:45	19° \mathring{S} 00'39			2962 Sep 20 22:04	0° \mathring{O}	
desc. node	2957 Feb 27 00:51	27° \mathring{S} 27'50		asc. node	2962 Sep 21 02:35	0° \mathring{O} 01'52	
	2957 Mar 12 07:26	0° $\mathring{\approx}$		retrograde	2962 Nov 22 10:23	5° \mathring{O} 43'11	
retrograde	2957 May 24 12:24	7° $\mathring{\approx}$ 25'48		min. Earth dist.	2963 Jan 19 22:22	0° \mathring{O} 49'35	4.20444 AU
opposition	2957 Jul 24 07:33	2° $\mathring{\approx}$ 32'01	0°-19'-43	opposition	2963 Jan 21 02:45	0° \mathring{O} 39'59	0°16'32
min. Earth dist.	2957 Jul 25 11:39	2° $\mathring{\approx}$ 22'58	4.16669 AU		2963 Jan 26 01:24	30° \mathring{R} \mathring{S}	
	2957 Aug 14 00:08	30° \mathring{R} \mathring{S}		direct	2963 Mar 21 15:12	25° \mathring{S} 39'11	
direct	2957 Sep 23 05:02	27° \mathring{S} 35'31			2963 May 14 22:39	0° \mathring{O}	
	2957 Nov 01 20:55	0° $\mathring{\approx}$		evening set	2963 Jul 26 09:30	14° \mathring{O} 04'47	
	2958 Jan 20 13:02	15° $\mathring{\approx}$			2963 Jul 30 13:13	15° \mathring{O}	
evening set	2958 Jan 26 12:57	16° $\mathring{\approx}$ 23'54		conjunction	2963 Aug 09 00:46	17° \mathring{O} 06'32	0°28'19
max. Earth dist.	2958 Feb 07 02:52	19° $\mathring{\approx}$ 07'33	6.09515 AU	minimum elong	2963 Aug 09 00:44	17° \mathring{O} 06'31	0°28'19
conjunction	2958 Feb 08 07:33	19° $\mathring{\approx}$ 24'30	0°-30'-36	max. Earth dist.	2963 Aug 10 09:20	17° \mathring{O} 24'40	6.27784 AU
minimum elong	2958 Feb 08 07:31	19° $\mathring{\approx}$ 24'29	0°30'36	morning rise	2963 Aug 22 14:49	20° \mathring{O} 07'26	
morning rise	2958 Feb 21 03:08	22° $\mathring{\approx}$ 25'54			2963 Oct 09 13:16	0° \mathring{M}	
				retrograde	2963 Dec 24 03:36	7° \mathring{M} 54'03	
































































































































opposition	2964 Feb 22 01:41	2° $\mathring{\text{M}}$ 54'18	1°02'15		2969 Feb 21 06:55	0° \approx	
min. Earth dist.	2964 Feb 21 13:16	2° $\mathring{\text{M}}$ 58'25	4.34314 AU	retrograde	2969 May 29 11:20	12° \approx 10'51	
	2964 Mar 16 11:02	30° $\mathring{\text{R}}$ $\mathring{\text{O}}$		opposition	2969 Jul 29 04:44	7° \approx 16'44	0°-27'-4
direct	2964 Apr 22 23:19	27° $\mathring{\text{O}}$ 51'56		min. Earth dist.	2969 Jul 30 08:05	7° \approx 07'55	4.14667 AU
	2964 May 30 22:22	0° $\mathring{\text{M}}$		direct	2969 Sep 27 22:59	2° \approx 20'30	
evening set	2964 Aug 27 18:15	15° $\mathring{\text{M}}$ 43'39			2970 Jan 03 20:46	15° \approx	
				evening set	2970 Jan 31 05:17	21° \approx 14'29	
conjunction	2964 Sep 10 02:53	18° $\mathring{\text{M}}$ 37'41	0°53'46	max. Earth dist.	2970 Feb 11 22:22	24° \approx 00'40	6.07612 AU
minimum elong	2964 Sep 10 02:51	18° $\mathring{\text{M}}$ 37'40	0°53'45				
max. Earth dist.	2964 Sep 10 07:13	18° $\mathring{\text{M}}$ 40'03	6.39740 AU	conjunction	2970 Feb 13 00:26	24° \approx 16'07	0°-35'-1
morning rise	2964 Sep 23 09:16	21° $\mathring{\text{M}}$ 30'27		minimum elong	2970 Feb 13 00:25	24° \approx 16'06	0°35'02
	2964 Nov 03 23:19	0° $\mathring{\text{A}}$		morning rise	2970 Feb 25 20:49	27° \approx 18'41	
retrograde	2965 Jan 22 11:42	8° $\mathring{\text{A}}$ 31'48			2970 Mar 09 08:54	0° $\mathring{\text{K}}$	
opposition	2965 Mar 23 18:56	3° $\mathring{\text{A}}$ 35'38	1°27'57	retrograde	2970 Jul 05 10:10	17° $\mathring{\text{K}}$ 02'50	
min. Earth dist.	2965 Mar 24 00:42	3° $\mathring{\text{A}}$ 33'45	4.43634 AU	opposition	2970 Sep 03 18:52	12° $\mathring{\text{K}}$ 05'36	-1°-13'-41
	2965 Apr 23 15:14	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$		min. Earth dist.	2970 Sep 04 01:59	12° $\mathring{\text{K}}$ 03'16	4.01478 AU
direct	2965 May 24 19:17	28° $\mathring{\text{M}}$ 32'52		direct	2970 Nov 02 01:04	7° $\mathring{\text{K}}$ 11'25	
	2965 Jun 25 08:30	0° $\mathring{\text{A}}$		evening set	2971 Mar 07 11:30	26° $\mathring{\text{K}}$ 42'18	
evening set	2965 Sep 28 10:02	16° $\mathring{\text{A}}$ 04'25					
				conjunction	2971 Mar 20 12:13	29° $\mathring{\text{K}}$ 51'09	0°-58'-36
conjunction	2965 Oct 11 11:36	18° $\mathring{\text{A}}$ 53'14	1°03'25	minimum elong	2971 Mar 20 12:12	29° $\mathring{\text{K}}$ 51'08	0°58'36
minimum elong	2965 Oct 11 11:36	18° $\mathring{\text{A}}$ 53'14	1°03'25	max. Earth dist.	2971 Mar 20 17:09	29° $\mathring{\text{K}}$ 54'07	5.97006 AU
max. Earth dist.	2965 Oct 10 14:17	18° $\mathring{\text{A}}$ 41'43	6.45706 AU		2971 Mar 21 02:52	0° $\mathring{\text{Y}}$	
morning rise	2965 Oct 24 10:14	21° $\mathring{\text{A}}$ 40'40		morning rise	2971 Apr 02 15:37	3° $\mathring{\text{Y}}$ 01'32	
	2965 Dec 04 10:19	0° $\mathring{\text{M}}$		retrograde	2971 Aug 12 17:15	23° $\mathring{\text{Y}}$ 36'29	
retrograde	2966 Feb 21 12:47	8° $\mathring{\text{M}}$ 23'55		opposition	2971 Oct 11 15:12	18° $\mathring{\text{Y}}$ 35'21	-1°-34'-4
opposition	2966 Apr 23 04:26	3° $\mathring{\text{M}}$ 30'31	1°29'32	min. Earth dist.	2971 Oct 10 23:44	18° $\mathring{\text{Y}}$ 40'32	3.94693 AU
min. Earth dist.	2966 Apr 24 02:54	3° $\mathring{\text{M}}$ 23'18	4.46005 AU	direct	2971 Dec 08 18:58	13° $\mathring{\text{Y}}$ 41'32	
	2966 May 23 12:57	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$			2972 Mar 28 21:09	0° $\mathring{\text{B}}$	
direct	2966 Jun 24 20:23	28° $\mathring{\text{A}}$ 28'25		evening set	2972 Apr 12 12:40	3° $\mathring{\text{B}}$ 29'02	
	2966 Jul 27 09:52	0° $\mathring{\text{M}}$					
	2966 Oct 24 16:37	15° $\mathring{\text{M}}$		conjunction	2972 Apr 25 21:33	6° $\mathring{\text{B}}$ 42'43	0°-59'-55
evening set	2966 Oct 29 02:18	15° $\mathring{\text{M}}$ 56'50		minimum elong	2972 Apr 25 21:35	6° $\mathring{\text{B}}$ 42'44	0°59'56
max. Earth dist.	2966 Nov 09 03:34	18° $\mathring{\text{M}}$ 20'48	6.44238 AU	max. Earth dist.	2972 Apr 27 11:50	7° $\mathring{\text{B}}$ 05'52	5.94665 AU
				morning rise	2972 May 09 09:20	9° $\mathring{\text{B}}$ 57'58	
conjunction	2966 Nov 10 22:07	18° $\mathring{\text{M}}$ 43'59	0°55'54		2972 May 30 19:08	15° $\mathring{\text{B}}$	
minimum elong	2966 Nov 10 22:09	18° $\mathring{\text{M}}$ 44'00	0°55'54		2972 Aug 30 09:04	0° $\mathring{\text{I}}$	
morning rise	2966 Nov 23 15:39	21° $\mathring{\text{M}}$ 30'04		retrograde	2972 Sep 18 15:13	0° $\mathring{\text{I}}$ 36'20	
	2967 Jan 04 04:26	0° $\mathring{\text{A}}$			2972 Oct 07 16:18	30° $\mathring{\text{R}}$ $\mathring{\text{B}}$	
retrograde	2967 Mar 24 08:14	8° $\mathring{\text{A}}$ 23'57		min. Earth dist.	2972 Nov 15 21:24	25° $\mathring{\text{B}}$ 42'51	3.97189 AU
opposition	2967 May 24 04:40	3° $\mathring{\text{A}}$ 31'54	1°07'22	opposition	2972 Nov 17 04:42	25° $\mathring{\text{B}}$ 32'13	-1°-16'-47
min. Earth dist.	2967 May 25 15:13	3° $\mathring{\text{A}}$ 20'52	4.40815 AU	direct	2973 Jan 14 01:55	20° $\mathring{\text{B}}$ 36'42	
	2967 Jun 24 01:05	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$			2973 Apr 04 10:18	0° $\mathring{\text{I}}$	
direct	2967 Jul 25 21:22	28° $\mathring{\text{M}}$ 31'08		evening set	2973 May 20 05:26	10° $\mathring{\text{I}}$ 11'34	
	2967 Aug 26 18:12	0° $\mathring{\text{A}}$					
evening set	2967 Nov 28 16:07	16° $\mathring{\text{A}}$ 14'18		conjunction	2973 Jun 02 21:12	13° $\mathring{\text{I}}$ 25'13	0°-37'-38
max. Earth dist.	2967 Dec 09 06:23	18° $\mathring{\text{A}}$ 35'21	6.35676 AU	minimum elong	2973 Jun 02 21:14	13° $\mathring{\text{I}}$ 25'15	0°37'39
				max. Earth dist.	2973 Jun 05 04:08	13° $\mathring{\text{I}}$ 57'42	6.01691 AU
conjunction	2967 Dec 11 09:02	19° $\mathring{\text{A}}$ 03'33	0°33'01	morning rise	2973 Jun 16 15:21	16° $\mathring{\text{I}}$ 39'50	
minimum elong	2967 Dec 11 09:03	19° $\mathring{\text{A}}$ 03'34	0°33'01		2973 Aug 18 13:51	0° $\mathring{\text{B}}$	
morning rise	2967 Dec 24 00:14	21° $\mathring{\text{A}}$ 52'14		retrograde	2973 Oct 24 12:09	6° $\mathring{\text{B}}$ 31'50	
	2968 Jan 31 13:30	0° $\mathring{\text{B}}$		min. Earth dist.	2973 Dec 21 13:44	1° $\mathring{\text{B}}$ 39'14	4.07926 AU
retrograde	2968 Apr 24 17:11	9° $\mathring{\text{B}}$ 24'45		opposition	2973 Dec 23 01:26	1° $\mathring{\text{B}}$ 27'04	0°-30'-25
opposition	2968 Jun 24 16:01	4° $\mathring{\text{B}}$ 32'26	0°25'25		2974 Jan 02 21:16	30° $\mathring{\text{R}}$ $\mathring{\text{I}}$	
min. Earth dist.	2968 Jun 26 03:48	4° $\mathring{\text{B}}$ 21'01	4.29335 AU	direct	2974 Feb 19 13:13	26° $\mathring{\text{I}}$ 28'36	
	2968 Aug 08 18:50	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$			2974 Apr 08 02:04	0° $\mathring{\text{B}}$	
direct	2968 Aug 25 15:00	29° $\mathring{\text{A}}$ 33'47		evening set	2974 Jun 26 02:23	15° $\mathring{\text{B}}$ 28'46	
	2968 Sep 11 13:19	0° $\mathring{\text{B}}$					
evening set	2968 Dec 29 02:21	17° $\mathring{\text{B}}$ 47'32		conjunction	2974 Jul 09 20:19	18° $\mathring{\text{B}}$ 37'13	0°-2'-6
desc. node	2969 Jan 07 11:35	19° $\mathring{\text{B}}$ 56'25		minimum elong	2974 Jul 09 20:20	18° $\mathring{\text{B}}$ 37'14	0°02'08
max. Earth dist.	2969 Jan 08 21:17	20° $\mathring{\text{B}}$ 15'48	6.22181 AU	behind sun begin	2974 Jul 09 11:58	18° $\mathring{\text{B}}$ 32'27	
				behind sun end	2974 Jul 10 04:43	18° $\mathring{\text{B}}$ 42'00	
conjunction	2969 Jan 10 18:50	20° $\mathring{\text{B}}$ 41'59	0°00'-18	max. Earth dist.	2974 Jul 11 23:05	19° $\mathring{\text{B}}$ 06'15	6.15172 AU
minimum elong	2969 Jan 10 18:50	20° $\mathring{\text{B}}$ 41'59	0°00'18	morning rise	2974 Jul 23 14:42	21° $\mathring{\text{B}}$ 45'35	
behind sun begin	2969 Jan 10 10:54	20° $\mathring{\text{B}}$ 37'27		asc. node	2974 Aug 01 01:47	23° $\mathring{\text{B}}$ 39'53	
behind sun end	2969 Jan 11 02:47	20° $\mathring{\text{B}}$ 46'32			2974 Aug 30 16:43	0° $\mathring{\text{O}}$	
morning rise	2969 Jan 23 11:06	23° $\mathring{\text{B}}$ 36'36		retrograde	2974 Nov 27 00:11	10° $\mathring{\text{O}}$ 27'37	

opposition	2975 Jan 25 16:33	5°Ω24'51	0°23'46	behind sun end	2981 Jan 15 12:15	25°321'05	
min. Earth dist.	2975 Jan 24 14:19	5°Ω33'42	4.22678 AU	morning rise	2981 Jan 27 21:11	28°312'27	
direct	2975 Mar 26 10:34	0°Ω23'49			2981 Feb 04 17:23	0°≈	
	2975 Jul 14 00:29	15°Ω			2981 Apr 28 12:09	15°≈	
evening set	2975 Jul 31 03:52	18°Ω43'16		retrograde	2981 Jun 03 09:30	16°≈57'53	
					2981 Jul 09 13:25	15°≈	
conjunction	2975 Aug 13 18:18	21°Ω43'45	0°32'37	opposition	2981 Aug 03 02:04	12°≈03'26	0°-34'-13
minimum elong	2975 Aug 13 18:16	21°Ω43'44	0°32'37	min. Earth dist.	2981 Aug 04 02:57	11°≈55'24	4.12148 AU
max. Earth dist.	2975 Aug 15 00:03	22°Ω00'13	6.29975 AU	direct	2981 Oct 02 14:04	7°≈07'32	
morning rise	2975 Aug 27 07:23	24°Ω43'18			2981 Dec 15 21:29	15°≈	
	2975 Sep 20 22:48	0°η		evening set	2982 Feb 04 23:04	26°≈09'15	
retrograde	2975 Dec 28 08:15	12°η21'07					
opposition	2976 Feb 26 09:12	7°η21'50	1°07'05	conjunction	2982 Feb 17 18:49	29°≈12'12	0°-39'-11
min. Earth dist.	2976 Feb 25 22:23	7°η25'25	4.36303 AU	minimum elong	2982 Feb 17 18:48	29°≈12'11	0°39'13
direct	2976 Apr 27 10:41	2°η19'21		max. Earth dist.	2982 Feb 16 20:09	28°≈58'41	6.05248 AU
evening set	2976 Sep 01 05:02	20°η06'02			2982 Feb 21 03:00	0°κ	
				morning rise	2982 Mar 02 16:09	2°κ16'12	
conjunction	2976 Sep 14 12:36	22°η58'59	0°56'03	retrograde	2982 Jul 10 18:28	22°κ11'32	
minimum elong	2976 Sep 14 12:34	22°η58'58	0°56'03	opposition	2982 Sep 09 00:19	17°κ13'45	-1°-18'-29
max. Earth dist.	2976 Sep 14 13:35	22°η59'31	6.41374 AU	min. Earth dist.	2982 Sep 09 04:27	17°κ12'23	3.99503 AU
morning rise	2976 Sep 27 17:41	25°η50'36		direct	2982 Nov 07 01:52	12°κ19'42	
	2976 Oct 17 09:36	0°ϐ			2983 Mar 04 11:23	0°γ	
retrograde	2977 Jan 26 14:09	12°ϐ46'28		evening set	2983 Mar 12 13:56	1°γ56'33	
opposition	2977 Mar 27 22:47	7°ϐ50'47	1°29'31				
min. Earth dist.	2977 Mar 28 07:23	7°ϐ47'59	4.44805 AU	conjunction	2983 Mar 25 15:56	5°γ06'34	-1°00'-13
direct	2977 May 29 03:25	2°ϐ48'05		minimum elong	2983 Mar 25 15:55	5°γ06'34	1°00'15
evening set	2977 Oct 02 15:19	20°ϐ16'51		max. Earth dist.	2983 Mar 26 03:19	5°γ13'28	5.95623 AU
				morning rise	2983 Apr 07 20:30	8°γ18'08	
conjunction	2977 Oct 15 15:50	23°ϐ05'02	1°03'19	retrograde	2983 Aug 18 04:30	28°γ58'39	
minimum elong	2977 Oct 15 15:50	23°ϐ05'02	1°03'19	opposition	2983 Oct 16 23:58	23°γ56'59	-1°-33'-52
max. Earth dist.	2977 Oct 14 13:35	22°ϐ50'52	6.46301 AU	min. Earth dist.	2983 Oct 16 05:28	24°γ03'12	3.94090 AU
morning rise	2977 Oct 28 13:40	25°ϐ51'55		direct	2983 Dec 14 00:45	19°γ03'06	
	2977 Nov 17 05:02	0°ℓ			2984 Mar 10 07:49	0°8	
retrograde	2978 Feb 25 15:27	12°ℓ33'56		evening set	2984 Apr 17 21:01	8°851'45	
opposition	2978 Apr 27 07:51	7°ℓ40'46	1°27'47				
min. Earth dist.	2978 Apr 28 08:58	7°ℓ32'42	4.45994 AU	conjunction	2984 May 01 06:56	12°805'52	0°-58'00
direct	2978 Jun 29 01:27	2°ℓ38'43		minimum elong	2984 May 01 06:57	12°805'53	0°58'01
	2978 Oct 08 20:45	15°ℓ		max. Earth dist.	2984 May 03 00:24	12°830'54	5.94875 AU
evening set	2978 Nov 02 04:54	20°ℓ07'25			2984 May 13 08:06	15°8	
max. Earth dist.	2978 Nov 13 04:24	22°ℓ30'39	6.43606 AU	morning rise	2984 May 14 20:04	15°821'33	
					2984 Jul 22 10:46	0°Π	
conjunction	2978 Nov 15 00:19	22°ℓ54'37	0°53'35	retrograde	2984 Sep 23 19:59	5°Π56'31	
minimum elong	2978 Nov 15 00:21	22°ℓ54'37	0°53'35	min. Earth dist.	2984 Nov 21 00:02	1°Π03'35	3.98184 AU
morning rise	2978 Nov 27 17:11	25°ℓ40'45		opposition	2984 Nov 22 10:04	0°Π52'00	-1°-11'-27
	2978 Dec 18 00:25	0°ϑ			2984 Nov 28 19:47	30°ϑ	
retrograde	2979 Mar 28 13:13	12°ϑ37'59		direct	2985 Jan 19 07:32	25°856'02	
opposition	2979 May 28 11:10	7°ϑ45'59	1°02'40		2985 Mar 10 21:09	0°Π	
min. Earth dist.	2979 May 29 22:35	7°ϑ34'42	4.39584 AU	evening set	2985 May 25 13:12	15°Π26'57	
direct	2979 Jul 30 01:54	2°ϑ45'27					
evening set	2979 Dec 02 20:11	20°ϑ32'06		conjunction	2985 Jun 08 05:42	18°Π40'07	0°-33'00
max. Earth dist.	2979 Dec 13 08:32	22°ϑ52'43	6.33921 AU	minimum elong	2985 Jun 08 05:44	18°Π40'09	0°33'01
				max. Earth dist.	2985 Jun 10 14:09	19°Π13'22	6.03361 AU
conjunction	2979 Dec 15 12:46	23°ϑ21'57	0°28'57	morning rise	2985 Jun 22 00:09	21°Π54'04	
minimum elong	2979 Dec 15 12:48	23°ϑ21'57	0°28'57		2985 Jul 28 04:58	0°ϑ	
morning rise	2979 Dec 28 04:04	26°ϑ11'20		retrograde	2985 Oct 29 10:20	11°ϑ36'19	
	2980 Jan 14 13:26	0°3		opposition	2985 Dec 27 23:27	6°ϑ31'34	0°-22'-37
retrograde	2980 Apr 29 07:52	13°351'47		min. Earth dist.	2985 Dec 26 12:56	6°ϑ43'20	4.10026 AU
opposition	2980 Jun 29 05:04	8°359'19	0°18'38	direct	2986 Feb 24 15:50	1°ϑ32'39	
min. Earth dist.	2980 Jun 30 17:44	8°347'36	4.27138 AU	asc. node	2986 Jun 10 01:21	15°ϑ44'20	
direct	2980 Aug 30 01:46	4°300'54		evening set	2986 Jul 01 04:17	20°ϑ26'08	
desc. node	2980 Nov 18 21:49	12°347'45					
evening set	2981 Jan 02 11:40	22°321'03		conjunction	2986 Jul 14 22:01	23°ϑ33'27	0°03'17
max. Earth dist.	2981 Jan 13 08:07	24°350'59	6.19724 AU	minimum elong	2986 Jul 14 22:02	23°ϑ33'27	0°03'17
				behind sun begin	2986 Jul 14 13:43	23°ϑ28'45	
conjunction	2981 Jan 15 04:32	25°316'39	0°-5'-14	behind sun end	2986 Jul 15 06:21	23°ϑ38'10	
minimum elong	2981 Jan 15 04:31	25°316'38	0°05'14	max. Earth dist.	2986 Jul 16 23:46	24°ϑ01'44	6.17494 AU
behind sun begin	2981 Jan 14 20:46	25°312'11		morning rise	2986 Jul 28 15:54	26°ϑ40'31	

	2986 Aug 12 14:25	0°♏		evening set	2993 Jan 07 01:42	27°♁06'01	
	2986 Nov 20 13:41	15°♏		max. Earth dist.	2993 Jan 17 23:54	29°♁37'48	6.17443 AU
retrograde	2986 Dec 01 11:31	15°♏11'46					
	2986 Dec 12 09:12	15°♏♏		conjunction	2993 Jan 19 18:41	0°♁02'39	0°-10'-17
min. Earth dist.	2987 Jan 29 05:02	10°♏17'54	4.24991 AU	minimum elong	2993 Jan 19 18:40	0°♁02'39	0°10'19
opposition	2987 Jan 30 06:21	10°♏09'23	0°30'53	behind sun begin	2993 Jan 19 12:18	29°♁58'57	
direct	2987 Mar 31 04:21	5°♏08'03		behind sun end	2993 Jan 20 01:03	0°♁06'20	
	2987 Jun 25 22:52	15°♏			2993 Jan 19 14:07	0°♁	
evening set	2987 Aug 04 22:12	23°♏21'19		morning rise	2993 Feb 01 11:58	2°♁59'40	
					2993 Mar 30 09:01	15°♁	
conjunction	2987 Aug 18 11:40	26°♏20'30	0°36'46	retrograde	2993 Jun 08 13:55	21°♁55'56	
minimum elong	2987 Aug 18 11:38	26°♏20'29	0°36'45	opposition	2993 Aug 08 04:28	17°♁01'07	0°-41'-29
max. Earth dist.	2987 Aug 19 12:42	26°♏34'18	6.32091 AU	min. Earth dist.	2993 Aug 09 02:54	16°♁53'51	4.09975 AU
morning rise	2987 Aug 31 23:41	29°♏18'42			2993 Aug 24 05:53	15°♏♁	
	2987 Sep 04 03:23	0°♏		direct	2993 Oct 07 11:50	12°♁05'35	
retrograde	2988 Jan 01 15:53	16°♏48'23			2993 Nov 19 18:09	15°♁	
opposition	2988 Mar 01 17:14	11°♏49'38	1°11'37		2994 Feb 04 16:17	0°♏	
min. Earth dist.	2988 Mar 01 10:00	11°♏52'02	4.38067 AU	evening set	2994 Feb 09 20:41	1°♏13'34	
direct	2988 May 02 00:30	6°♏47'03					
evening set	2988 Sep 05 16:24	24°♏29'34		conjunction	2994 Feb 22 17:18	4°♏17'40	0°-43'-15
				minimum elong	2994 Feb 22 17:16	4°♏17'39	0°43'16
conjunction	2988 Sep 18 22:59	27°♏21'36	0°58'05	max. Earth dist.	2994 Feb 22 00:11	4°♏07'26	6.03416 AU
minimum elong	2988 Sep 18 22:57	27°♏21'35	0°58'05	morning rise	2994 Mar 07 15:23	7°♏22'51	
max. Earth dist.	2988 Sep 18 19:56	27°♏19'57	6.42647 AU	retrograde	2994 Jul 16 04:24	27°♏27'00	
	2988 Oct 01 04:07	0°♏		opposition	2994 Sep 14 08:26	22°♏28'44	-1°-22'-47
morning rise	2988 Oct 02 02:57	0°♏12'17		min. Earth dist.	2994 Sep 14 09:10	22°♏28'30	3.98244 AU
retrograde	2989 Jan 30 17:27	17°♏04'06		direct	2994 Nov 12 05:08	17°♏34'57	
opposition	2989 Apr 01 04:16	12°♏08'49	1°30'42		2995 Feb 14 16:44	0°♏	
min. Earth dist.	2989 Apr 01 14:56	12°♏05'21	4.45538 AU	evening set	2995 Mar 17 18:41	7°♏15'00	
direct	2989 Jun 02 10:55	7°♏06'09					
evening set	2989 Oct 06 22:12	24°♏33'32		conjunction	2995 Mar 30 21:33	10°♏25'44	-1°-1'-26
				minimum elong	2995 Mar 30 21:33	10°♏25'44	1°01'27
conjunction	2989 Oct 19 21:54	27°♏21'21	1°02'57	max. Earth dist.	2995 Mar 31 12:55	10°♏35'04	5.95049 AU
minimum elong	2989 Oct 19 21:54	27°♏21'21	1°02'56	morning rise	2995 Apr 13 03:26	13°♏38'08	
max. Earth dist.	2989 Oct 18 17:02	27°♏05'46	6.46443 AU		2995 Jun 30 22:52	0°♏	
morning rise	2989 Nov 01 18:48	0°♏07'51		retrograde	2995 Aug 23 12:35	4°♏20'31	
	2989 Nov 01 04:10	0°♏			2995 Oct 17 04:01	30°♏♏	
	2990 Jan 26 00:45	15°♏		min. Earth dist.	2995 Oct 21 09:42	29°♏25'53	3.94298 AU
retrograde	2990 Mar 01 20:55	16°♏50'13		opposition	2995 Oct 22 08:06	29°♏18'20	-1°-32'-54
	2990 Apr 05 20:13	15°♏♏		direct	2995 Dec 19 07:05	24°♏24'16	
opposition	2990 May 01 14:29	11°♏57'21	1°25'34		2996 Feb 17 01:43	0°♏	
min. Earth dist.	2990 May 02 17:54	11°♏48'35	4.45539 AU	evening set	2996 Apr 23 04:08	14°♏11'09	
direct	2990 Jul 03 09:05	6°♏55'32			2996 Apr 26 13:39	15°♏	
	2990 Sep 20 18:45	15°♏					
evening set	2990 Nov 06 10:49	24°♏25'45		conjunction	2996 May 06 15:12	17°♏25'19	0°-55'-40
max. Earth dist.	2990 Nov 17 06:11	26°♏47'11	6.42575 AU	minimum elong	2996 May 06 15:14	17°♏25'20	0°55'41
				max. Earth dist.	2996 May 08 12:56	17°♏52'51	5.95836 AU
conjunction	2990 Nov 19 05:35	27°♏13'07	0°50'55	morning rise	2996 May 20 05:09	20°♏40'56	
minimum elong	2990 Nov 19 05:37	27°♏13'08	0°50'55		2996 Jun 30 06:06	0°♏	
morning rise	2990 Dec 01 22:13	29°♏59'33		retrograde	2996 Sep 28 23:00	11°♏09'42	
	2990 Dec 01 23:02	0°♏		min. Earth dist.	2996 Nov 26 02:23	6°♏16'36	3.99767 AU
retrograde	2991 Apr 02 00:36	17°♏01'32		opposition	2996 Nov 27 12:35	6°♏04'57	-1°-5'-42
opposition	2991 Jun 01 22:10	12°♏09'34	0°57'27	direct	2997 Jan 24 12:37	1°♏08'35	
min. Earth dist.	2991 Jun 03 10:49	11°♏57'53	4.38034 AU	evening set	2997 May 30 17:27	20°♏33'46	
direct	2991 Aug 03 11:40	7°♏09'16					
evening set	2991 Dec 07 04:26	25°♏00'19		conjunction	2997 Jun 13 10:25	23°♏46'12	0°-28'-17
max. Earth dist.	2991 Dec 17 17:49	27°♏22'07	6.31981 AU	minimum elong	2997 Jun 13 10:27	23°♏46'13	0°28'18
				max. Earth dist.	2997 Jun 15 19:48	24°♏19'49	6.05400 AU
conjunction	2991 Dec 19 21:05	27°♏50'55	0°24'33	morning rise	2997 Jun 27 05:06	26°♏59'16	
minimum elong	2991 Dec 19 21:06	27°♏50'56	0°24'32		2997 Jul 10 07:57	0°♏	
	2991 Dec 29 10:51	0°♏		retrograde	2997 Nov 03 02:25	16°♏30'51	
morning rise	2992 Jan 01 12:17	0°♏41'06		min. Earth dist.	2997 Dec 31 06:38	11°♏38'03	4.12301 AU
retrograde	2992 May 04 01:39	18°♏30'09		opposition	2998 Jan 01 17:05	11°♏26'20	0°-14'-59
opposition	2992 Jul 03 23:10	13°♏37'34	0°11'23	direct	2998 Mar 01 12:42	6°♏27'03	
min. Earth dist.	2992 Jul 05 10:39	13°♏26'14	4.24934 AU	asc. node	2998 Apr 20 11:38	10°♏16'01	
direct	2992 Sep 03 15:12	8°♏39'35		evening set	2998 Jul 06 02:10	25°♏13'53	
desc. node	2992 Sep 28 08:30	9°♏35'51					

conjunction	2998 Jul 19 19:26	28°☾19'59	0°08'20	morning rise	3004 Jan 06 21:48	5°☾14'31	
minimum elong	2998 Jul 19 19:26	28°☾19'59	0°08'21	retrograde	3004 May 09 22:10	23°☾12'14	
behind sun begin	2998 Jul 19 12:08	28°☾15'52		opposition	3004 Jul 09 18:47	18°☾19'21	0°04'00
behind sun end	2998 Jul 20 02:44	28°☾24'05		min. Earth dist.	3004 Jul 11 04:40	18°☾08'30	4.22837 AU
max. Earth dist.	2998 Jul 21 16:45	28°☾45'38	6.19799 AU	desc. node	3004 Aug 08 21:04	14°☾51'02	
	2998 Jul 27 04:20	0°♈		direct	3004 Sep 09 06:54	13°☾21'39	
morning rise	2998 Aug 02 12:47	1°♈25'46			3005 Jan 04 10:44	0°≈	
	2998 Oct 09 23:46	15°♈		evening set	3005 Jan 12 16:43	1°≈53'42	
retrograde	2998 Dec 05 21:15	19°♈46'59		max. Earth dist.	3005 Jan 23 19:36	4°≈28'49	6.15418 AU
	2999 Feb 01 19:56	15°♈♈					
opposition	2999 Feb 03 16:23	14°♈45'05	0°37'32	conjunction	3005 Jan 25 10:10	4°≈51'19	0°-15'-19
min. Earth dist.	2999 Feb 02 18:20	14°♈52'29	4.27120 AU	minimum elong	3005 Jan 25 10:09	4°≈51'18	0°15'21
direct	2999 Apr 04 20:19	9°♈43'27		behind sun begin	3005 Jan 25 07:24	4°≈49'42	
	2999 Jun 04 19:03	15°♈		behind sun end	3005 Jan 25 12:54	4°≈52'54	
evening set	2999 Aug 09 12:38	27°♈51'28		morning rise	3005 Feb 07 03:47	7°≈49'21	
	2999 Aug 19 07:10	0°♐			3005 Mar 11 05:10	15°≈	
				retrograde	3005 Jun 14 18:03	26°≈55'01	
conjunction	2999 Aug 23 01:24	0°♐49'35	0°40'34	opposition	3005 Aug 14 07:00	21°≈59'47	0°-48'-28
minimum elong	2999 Aug 23 01:22	0°♐49'34	0°40'34	min. Earth dist.	3005 Aug 15 02:55	21°≈53'19	4.08199 AU
max. Earth dist.	2999 Aug 23 23:20	1°♐01'38	6.33880 AU	direct	3005 Oct 13 09:22	17°≈04'33	
morning rise	2999 Sep 05 12:16	3°♐46'35			3006 Jan 19 13:49	0°♑	
retrograde	3000 Jan 05 19:10	21°♐09'38		evening set	3006 Feb 15 18:29	6°♑17'11	
opposition	3000 Mar 06 22:35	16°♐11'26	1°15'37				
min. Earth dist.	3000 Mar 06 17:15	16°♐13'11	4.39416 AU	conjunction	3006 Feb 28 15:36	9°♑22'09	0°-46'-59
direct	3000 May 07 08:36	11°♐08'46		minimum elong	3006 Feb 28 15:34	9°♑22'08	0°46'59
evening set	3000 Sep 11 01:19	28°♐48'35		max. Earth dist.	3006 Feb 28 01:39	9°♑13'47	6.02024 AU
	3000 Sep 16 14:02	0°♒		morning rise	3006 Mar 13 14:45	12°♑28'22	
					3006 Jun 10 22:24	0°♓	
conjunction	3000 Sep 24 06:49	1°♒39'53	0°59'45	retrograde	3006 Jul 22 10:49	2°♓39'15	
minimum elong	3000 Sep 24 06:47	1°♒39'52	0°59'45		3006 Sep 02 07:12	30°♓♑	
max. Earth dist.	3000 Sep 23 22:41	1°♒35'29	6.43455 AU	opposition	3006 Sep 20 14:58	27°♓40'22	-1°-26'-23
morning rise	3000 Oct 07 09:49	4°♒29'50		min. Earth dist.	3006 Sep 20 11:37	27°♓41'29	3.97388 AU
retrograde	3001 Feb 04 22:07	21°♒19'17		direct	3006 Nov 18 07:36	22°♓46'38	
opposition	3001 Apr 06 08:44	16°♒24'27	1°31'26		3007 Jan 26 11:50	0°♓	
min. Earth dist.	3001 Apr 06 22:59	16°♒19'50	4.45783 AU	evening set	3007 Mar 23 21:41	12°♓28'25	
direct	3001 Jun 07 18:39	11°♒21'49					
evening set	3001 Oct 12 04:16	28°♒49'19		conjunction	3007 Apr 06 01:43	15°♓39'46	-1°-2'-8
	3001 Oct 17 15:43	0°♐		minimum elong	3007 Apr 06 01:42	15°♓39'46	1°02'09
max. Earth dist.	3001 Oct 23 18:50	1°♐19'26	6.46098 AU	max. Earth dist.	3007 Apr 06 22:52	15°♓52'36	5.94803 AU
				morning rise	3007 Apr 19 08:32	18°♓52'44	
conjunction	3001 Oct 25 03:15	1°♐36'58	1°02'14		3007 Jun 07 16:58	0°♈	
minimum elong	3001 Oct 25 03:15	1°♐36'58	1°02'14	retrograde	3007 Aug 29 20:03	9°♈35'36	
morning rise	3001 Nov 06 23:28	4°♐23'21		opposition	3007 Oct 28 13:36	4°♈32'57	-1°-31'-11
	3001 Dec 30 21:18	15°♐		min. Earth dist.	3007 Oct 27 13:52	4°♈40'57	3.94695 AU
retrograde	3002 Mar 07 02:46	21°♐07'32			3007 Dec 11 03:41	30°♓♓	
opposition	3002 May 06 21:16	16°♐14'52	1°22'57	direct	3007 Dec 25 12:30	29°♓38'39	
min. Earth dist.	3002 May 08 01:55	16°♐05'41	4.44657 AU		3008 Jan 08 20:08	0°♈	
	3002 May 16 17:41	15°♐♐			3008 Apr 10 17:12	15°♈	
direct	3002 Jul 08 15:09	11°♐13'10		evening set	3008 Apr 29 09:08	19°♈23'24	
	3002 Aug 29 22:50	15°♐					
evening set	3002 Nov 11 17:04	28°♐46'09		conjunction	3008 May 12 21:11	22°♈37'34	0°-52'-56
	3002 Nov 17 08:23	0°♊		minimum elong	3008 May 12 21:13	22°♈37'36	0°52'57
max. Earth dist.	3002 Nov 22 12:09	1°♊07'52	6.41228 AU	max. Earth dist.	3008 May 14 21:45	23°♈06'42	5.96824 AU
				morning rise	3008 May 26 12:06	25°♈53'07	
conjunction	3002 Nov 24 11:31	1°♊33'53	0°47'59		3008 Jun 13 01:39	0°♐	
minimum elong	3002 Nov 24 11:33	1°♊33'54	0°47'58	retrograde	3008 Oct 04 22:13	16°♐15'29	
morning rise	3002 Dec 07 03:42	4°♊20'42		min. Earth dist.	3008 Dec 02 00:33	11°♐22'44	4.01243 AU
retrograde	3003 Apr 07 12:40	21°♊28'21		opposition	3008 Dec 03 11:59	11°♐10'40	0°-59'-35
opposition	3003 Jun 07 10:32	16°♊36'25	0°51'52	direct	3009 Jan 30 12:34	6°♐13'56	
min. Earth dist.	3003 Jun 08 23:43	16°♊24'35	4.36304 AU	evening set	3009 Jun 05 19:59	25°♐34'20	
direct	3003 Aug 08 22:01	11°♊36'26					
evening set	3003 Dec 12 13:54	29°♊32'08		conjunction	3009 Jun 19 13:14	28°♐46'06	0°-23'-26
	3003 Dec 14 15:39	0°☾		minimum elong	3009 Jun 19 13:16	28°♐46'07	0°23'28
max. Earth dist.	3003 Dec 23 02:33	1°☾54'14	6.30002 AU	max. Earth dist.	3009 Jun 21 20:27	29°♐18'17	6.07218 AU
					3009 Jun 24 20:04	0°☾	
conjunction	3003 Dec 25 06:20	2°☾23'28	0°19'57	morning rise	3009 Jul 03 08:12	1°☾58'24	
minimum elong	3003 Dec 25 06:21	2°☾23'28	0°19'58	retrograde	3009 Nov 08 18:20	21°☾20'33	

min. Earth dist.	3010 Jan 06 00:36	16°  27'22	4.14255 AU	max. Earth dist.	3015 Dec 27 15:00	6°  29'35	6.28480 AU
opposition	3010 Jan 07 09:11	16°  16'18	0°-7'-22				
asc. node	3010 Mar 01 23:16	11°  19'34		conjunction	3015 Dec 29 16:02	6°  57'22	0°15'18
direct	3010 Mar 07 09:33	11°  16'36		minimum elong	3015 Dec 29 16:03	6°  57'23	0°15'18
evening set	3010 Jul 11 22:53	29°  58'10		behind sun begin	3015 Dec 29 13:17	6°  55'49	
	3010 Jul 12 02:09	0° 		behind sun end	3015 Dec 29 18:49	6°  58'56	
				morning rise	3016 Jan 11 07:25	9°  49'03	
conjunction	3010 Jul 25 15:59	3°  03'19	0°13'18	retrograde	3016 May 14 18:05	27°  53'51	
minimum elong	3010 Jul 25 15:58	3°  03'18	0°13'18	desc. node	3016 Jun 19 14:29	25°  58'44	
behind sun begin	3010 Jul 25 11:21	3°  00'43		opposition	3016 Jul 14 14:03	23°  00'47	0°-3'-18
behind sun end	3010 Jul 25 20:35	3°  05'53		min. Earth dist.	3016 Jul 15 22:50	22°  50'17	4.21273 AU
max. Earth dist.	3010 Jul 27 11:40	3°  27'56	6.21742 AU	direct	3016 Sep 13 22:37	18°  03'30	
morning rise	3010 Aug 08 08:33	6°  07'56			3016 Dec 18 13:40	0° 	
	3010 Sep 19 06:43	15° 		evening set	3017 Jan 17 06:37	6°  39'14	
retrograde	3010 Dec 11 06:21	24°  02'38		max. Earth dist.	3017 Jan 28 11:11	9°  15'54	6.13941 AU
min. Earth dist.	3011 Feb 08 05:51	19°  02'06	4.28885 AU				
opposition	3011 Feb 09 02:14	19°  01'16	0°43'56	conjunction	3017 Jan 30 00:10	9°  37'32	0°-20'-8
	3011 Mar 20 08:32	15°  00'00		minimum elong	3017 Jan 30 00:09	9°  37'32	0°20'09
direct	3011 Apr 10 09:37	14°  01'729		morning rise	3017 Feb 11 18:24	12°  36'26	
	3011 May 01 16:47	15° 			3017 Feb 22 03:03	15° 	
	3011 Aug 04 05:20	0° 			3017 May 16 06:27	0° 	
evening set	3011 Aug 15 03:32	2°  00'21'33		retrograde	3017 Jun 19 17:37	1°  49'39	
					3017 Jul 24 09:24	30° 	
conjunction	3011 Aug 28 15:15	5°  00'18'41	0°44'08	opposition	3017 Aug 19 07:17	26°  53'55	0°-54'-53
minimum elong	3011 Aug 28 15:13	5°  00'18'39	0°44'08	min. Earth dist.	3017 Aug 19 23:38	26°  48'36	4.06932 AU
max. Earth dist.	3011 Aug 29 07:32	5°  00'27'37	6.35326 AU	direct	3017 Oct 18 05:00	21°  58'57	
morning rise	3011 Sep 11 01:15	8°  00'14'42			3017 Dec 31 15:24	0° 	
retrograde	3012 Jan 11 01:56	25°  00'32'21		evening set	3018 Feb 20 13:25	11°  41'30	
opposition	3012 Mar 11 05:01	20°  00'34'41	1°19'15				
min. Earth dist.	3012 Mar 11 03:12	20°  00'35'17	4.40464 AU	conjunction	3018 Mar 05 11:18	14°  41'20'11	0°-50'-12
direct	3012 May 11 19:15	15°  00'31'58		minimum elong	3018 Mar 05 11:16	14°  41'20'10	0°50'14
	3012 Aug 31 12:23	0° 		max. Earth dist.	3018 Mar 05 02:36	14°  41'14'58	6.01086 AU
evening set	3012 Sep 15 11:16	3°  00'10'00		morning rise	3018 Mar 18 11:05	17°  41'27'09	
					3018 May 14 18:52	0° 	
conjunction	3012 Sep 28 16:00	6°  00'00'44	1°01'07	retrograde	3018 Jul 27 15:27	7°  42'58	
minimum elong	3012 Sep 28 15:59	6°  00'00'43	1°01'07	opposition	3018 Sep 25 17:30	2°  43'36	-1°-29'-9
max. Earth dist.	3012 Sep 28 05:20	5°  00'54'58	6.44034 AU	min. Earth dist.	3018 Sep 25 12:27	2°  45'16	3.96886 AU
morning rise	3012 Oct 11 17:52	8°  00'50'04			3018 Oct 17 13:25	30° 	
retrograde	3013 Feb 09 02:25	25°  00'37'52		direct	3018 Nov 23 08:25	27°  41'49'52	
opposition	3013 Apr 10 14:46	20°  00'43'28	1°31'41		3018 Dec 29 14:59	0° 	
min. Earth dist.	3013 Apr 11 06:15	20°  00'43'27	4.45893 AU	evening set	3019 Mar 28 21:00	17°  41'32'22	
direct	3013 Jun 12 01:09	15°  00'41'01					
	3013 Oct 01 14:55	0° 		conjunction	3019 Apr 11 01:58	20°  41'44'11	-1°-2'-19
evening set	3013 Oct 16 11:43	3°  00'08'54		minimum elong	3019 Apr 11 01:58	20°  41'44'11	1°02'20
max. Earth dist.	3013 Oct 27 23:03	5°  00'37'32	6.45746 AU	max. Earth dist.	3019 Apr 12 02:08	20°  41'58'50	5.94771 AU
				morning rise	3019 Apr 24 09:58	23°  41'57'39	
conjunction	3013 Oct 29 09:52	5°  00'56'23	1°01'11		3019 May 20 03:44	0° 	
minimum elong	3013 Oct 29 09:52	5°  00'56'24	1°01'11	retrograde	3019 Sep 03 20:31	14°  41'39'59	
morning rise	3013 Nov 11 05:26	8°  00'42'40		min. Earth dist.	3019 Nov 01 11:53	9°  41'45'45	3.95167 AU
	3013 Dec 11 11:02	15° 		opposition	3019 Nov 02 13:56	9°  41'36'57	-1°-28'-50
retrograde	3014 Mar 11 11:47	25°  00'28'49		direct	3019 Dec 30 10:50	4°  41'42'24	
opposition	3014 May 11 06:08	20°  00'36'26	1°19'50		3020 Mar 23 21:04	15° 	
min. Earth dist.	3014 May 12 12:48	20°  00'26'38	4.43883 AU	evening set	3020 May 04 09:53	24°  41'25'13	
direct	3014 Jul 13 00:45	15°  00'35'02					
	3014 Nov 01 07:02	0° 		conjunction	3020 May 17 22:48	27°  41'39'23	0°-49'-56
evening set	3014 Nov 16 00:27	3°  00'31'10'10		minimum elong	3020 May 17 22:50	27°  41'39'24	0°49'56
max. Earth dist.	3014 Nov 26 17:34	5°  00'31'14	6.40106 AU	max. Earth dist.	3020 May 19 23:39	28°  41'08'37	5.97740 AU
					3020 May 27 18:15	0° 	
conjunction	3014 Nov 28 18:27	5°  00'31'10	0°44'46	morning rise	3020 May 31 14:37	0°  41'54'52	
minimum elong	3014 Nov 28 18:29	5°  00'31'11	0°44'45	retrograde	3020 Oct 09 17:35	21°  41'11'33	
morning rise	3014 Dec 11 10:24	8°  00'31'45'20		min. Earth dist.	3020 Dec 06 20:13	16°  41'18'34	4.02489 AU
retrograde	3015 Apr 12 01:27	25°  00'31'57'58		opposition	3020 Dec 08 07:12	16°  41'06'38	0°-53'-19
opposition	3015 Jun 11 23:57	21°  00'30'01	0°45'58	direct	3021 Feb 04 10:46	11°  41'09'28	
min. Earth dist.	3015 Jun 13 12:11	20°  00'31'54'28	4.34917 AU		3021 Jun 08 21:14	0° 	
direct	3015 Aug 13 08:32	16°  00'31'06'22		evening set	3021 Jun 10 18:36	0° 	
	3015 Nov 28 09:53	0° 					
evening set	3015 Dec 16 23:36	4°  00'31'05'28		conjunction	3021 Jun 24 12:23	3°  41'26'28	0°-18'-38

minimum elong	2021 Jun 24 12:25	3°  37'29	0°18'38			2027 Nov 10 23:46	0° 	
max. Earth dist.	2021 Jun 26 19:54	4°  09'43	6.08708 AU	evening set		2027 Dec 21 08:12	8°  35'28	
morning rise	2021 Jul 08 07:18	6°  49'05		max. Earth dist.		2027 Dec 31 23:10	10°  59'58	6.26686 AU
retrograde	2021 Nov 13 08:08	26°  03'18						
opposition	2022 Jan 11 22:18	20°  59'22	0°00'00	conjunction		2028 Jan 03 00:34	11°  28'04	0°10'32
min. Earth dist.	2022 Jan 10 14:56	21°  10'00	4.15839 AU	minimum elong		2028 Jan 03 00:34	11°  28'04	0°10'32
asc. node	2022 Jan 12 02:12	20°  58'02		behind sun begin		2028 Jan 02 18:19	11°  24'32	
direct	2022 Mar 12 01:47	15°  59'21		behind sun end		2028 Jan 03 06:50	11°  31'37	
	2022 Jun 25 16:17	0° 		morning rise		2028 Jan 15 16:14	14°  20'34	
evening set	2022 Jul 16 17:30	4°  37'04				2028 Apr 08 04:45	0° 	
				desc. node		2028 Apr 30 00:39	1°  58'10	
conjunction	2022 Jul 30 10:01	7°  41'19	0°18'01	retrograde		2028 May 19 12:51	2°  33'45	
minimum elong	2022 Jul 30 10:00	7°  41'19	0°18'01			2028 Jun 30 10:06	30°  R 	
max. Earth dist.	2022 Aug 01 01:26	8°  03'27	6.23293 AU	opposition		2028 Jul 19 08:55	27°  40'22	0°-10'-42
morning rise	2022 Aug 13 02:08	10°  45'02		min. Earth dist.		2028 Jul 20 15:27	27°  30'34	4.19320 AU
	2022 Sep 01 12:30	15° 		direct		2028 Sep 18 12:18	22°  43'23	
retrograde	2022 Dec 15 14:08	28°  50'37				2028 Nov 29 10:27	0° 	
opposition	2023 Feb 13 10:31	23°  49'40	0°49'52	evening set		2029 Jan 21 20:50	11°  24'33	
min. Earth dist.	2023 Feb 12 16:29	23°  55'42	4.30297 AU	max. Earth dist.		2029 Feb 02 05:46	14°  04'24	6.11997 AU
direct	2023 Apr 14 21:48	18°  47'39						
	2023 Jul 18 05:27	0° 		conjunction		2029 Feb 03 14:50	14°  23'51	0°-24'-54
evening set	2023 Aug 19 16:52	6°  48'43		minimum elong		2029 Feb 03 14:49	14°  23'50	0°24'54
						2029 Feb 06 04:19	15° 	
conjunction	2023 Sep 02 03:54	9°  45'02	0°47'21	morning rise		2029 Feb 16 09:31	17°  23'47	
minimum elong	2023 Sep 02 03:52	9°  45'01	0°47'21			2029 Apr 16 17:37	0° 	
max. Earth dist.	2023 Sep 02 18:07	9°  52'49	6.36509 AU	retrograde		2029 Jun 24 21:31	6°  46'32	
morning rise	2023 Sep 15 12:42	12°  40'07		opposition		2029 Aug 24 08:45	1°  50'24	-1°-1'-6
retrograde	2024 Jan 15 06:27	29°  53'05		min. Earth dist.		2029 Aug 24 23:33	1°  45'35	4.05162 AU
opposition	2024 Mar 15 10:49	24°  55'52	1°22'20			2029 Sep 07 19:41	30°  R 	
min. Earth dist.	2024 Mar 15 10:36	24°  55'56	4.41353 AU	direct		2029 Oct 23 02:38	26°  55'42	
direct	2024 May 16 03:38	19°  53'09				2029 Dec 06 06:35	0° 	
	2024 Aug 14 07:19	0° 		evening set		2030 Feb 25 10:41	16°  46'23	
evening set	2024 Sep 19 20:20	7°  29'24						
				conjunction		2030 Mar 10 09:21	19°  46'23	
conjunction	2024 Oct 02 23:55	10°  29'30	1°02'06	minimum elong		2030 Mar 10 09:20	19°  46'23	
minimum elong	2024 Oct 02 23:54	10°  29'30	1°02'06	max. Earth dist.		2030 Mar 10 03:54	19°  46'23	
max. Earth dist.	2024 Oct 02 08:57	10°  29'30	6.44548 AU	morning rise		2030 Mar 23 10:17	22°  46'23	
morning rise	2024 Oct 16 00:58	13°  29'30				2030 Apr 24 19:10	0° 	
retrograde	2025 Feb 13 08:05	29°  54'24		retrograde		2030 Aug 01 22:00	12°  53'52	
opposition	2025 Apr 14 20:32	25°  54'24	1°31'24	opposition		2030 Sep 30 22:47	7°  53'52	-1°-31'-23
min. Earth dist.	2025 Apr 15 14:47	24°  54'24	4.46009 AU	min. Earth dist.		2030 Sep 30 13:56	7°  53'52	3.95958 AU
direct	2025 Jun 16 09:33	19°  54'24		direct		2030 Nov 28 08:52	3°  53'52	
	2025 Sep 14 13:19	0° 		evening set		2031 Apr 03 00:18	22°  53'52	
evening set	2025 Oct 20 17:58	7°  53'19						
max. Earth dist.	2025 Nov 01 03:20	9°  53'19	6.45430 AU	conjunction		2031 Apr 16 06:23	25°  53'19	-1°-2'-3
				minimum elong		2031 Apr 16 06:23	25°  53'19	1°02'04
conjunction	2025 Nov 02 15:32	10°  53'19	0°59'47	max. Earth dist.		2031 Apr 17 10:10	26°  53'19	5.94433 AU
minimum elong	2025 Nov 02 15:33	10°  53'19	0°59'47	morning rise		2031 Apr 29 15:35	29°  53'19	
morning rise	2025 Nov 15 10:17	12°  53'19				2031 May 02 23:30	0° 	
	2025 Nov 24 20:18	15°  53'19				2031 Jul 13 20:55	15°  53'19	
retrograde	2026 Mar 15 17:42	29°  53'19		retrograde		2031 Sep 09 01:50	19°  53'19	
opposition	2026 May 15 13:51	24°  53'19	1°16'17			2031 Nov 06 17:31	15°  53'19	
min. Earth dist.	2026 May 16 20:44	24°  53'19	4.43138 AU	opposition		2031 Nov 07 18:28	14°  53'19	-1°-25'-44
direct	2026 Jul 17 07:09	19°  53'19		min. Earth dist.		2031 Nov 06 14:45	15°  53'19	3.95458 AU
	2026 Oct 15 07:27	0° 		direct		2032 Jan 04 15:07	9°  53'19	
evening set	2026 Nov 20 06:32	7°  53'19				2032 Mar 01 06:03	15°  53'19	
max. Earth dist.	2026 Nov 30 22:47	9°  53'19	6.38959 AU	evening set		2032 May 09 15:28	29°  53'19	
						2032 May 11 04:03	0° 	
conjunction	2026 Dec 03 00:04	10°  53'19	0°41'17					
minimum elong	2026 Dec 03 00:05	10°  53'19	0°41'18	conjunction		2032 May 23 05:32	2°  53'19	0°-46'-25
morning rise	2026 Dec 15 15:43	13°  53'19		minimum elong		2032 May 23 05:34	2°  53'19	0°46'25
	2027 Mar 31 13:40	0° 		max. Earth dist.		2032 May 25 10:09	3°  53'19	5.98652 AU
retrograde	2027 Apr 16 14:48	0°  53'19		morning rise		2032 Jun 05 22:03	6°  53'19	
	2027 May 02 14:25	30°  R 		retrograde		2032 Oct 14 18:29	26°  53'19	
opposition	2027 Jun 16 12:33	25°  53'19	0°39'48	min. Earth dist.		2032 Dec 11 19:07	21°  53'19	4.03928 AU
min. Earth dist.	2027 Jun 18 01:51	25°  53'19	4.33395 AU	opposition		2032 Dec 13 06:25	21°  53'19	0°-46'-24
direct	2027 Aug 17 19:39	20°  53'19		direct		2033 Feb 09 12:07	16°  53'19	

	3033 May 22 14:57	0°♌		opposition	3038 May 19 19:04	29°♍06'09	1°12'25
evening set	3033 Jun 15 21:54	5°♌28'21		min. Earth dist.	3038 May 21 04:40	28°♍55'26	4.42368 AU
				direct	3038 Jul 21 13:07	24°♍05'01	
conjunction	3033 Jun 29 15:44	8°♌38'52	0°-13'-29		3038 Sep 25 23:13	0°♌	
minimum elong	3033 Jun 29 15:45	8°♌38'52	0°13'30	evening set	3038 Nov 24 09:18	11°♌44'04	
behind sun begin	3033 Jun 29 11:16	8°♌36'17		max. Earth dist.	3038 Dec 04 23:44	14°♌04'32	6.37614 AU
behind sun end	3033 Jun 29 20:15	8°♌41'27					
max. Earth dist.	3033 Jul 01 21:51	9°♌10'09	6.10556 AU	conjunction	3038 Dec 07 02:38	14°♌32'44	0°37'42
morning rise	3033 Jul 13 10:48	11°♌49'39		minimum elong	3038 Dec 07 02:40	14°♌32'45	0°37'42
	3033 Oct 25 08:27	0°♏		morning rise	3038 Dec 19 18:03	17°♌20'43	
retrograde	3033 Nov 17 22:47	0°♏54'14			3039 Feb 22 11:33	0°♌	
asc. node	3033 Nov 21 23:44	0°♏52'36		retrograde	3039 Apr 20 23:55	4°♌44'41	
	3033 Dec 11 09:02	30°♏♌			3039 Jun 19 23:08	30°♏♌	
min. Earth dist.	3034 Jan 15 07:37	26°♌01'02	4.17927 AU	opposition	3039 Jun 20 22:37	29°♌52'31	0°33'33
opposition	3034 Jan 16 14:23	25°♌50'36	0°07'35	min. Earth dist.	3039 Jun 22 11:30	29°♌40'45	4.31543 AU
direct	3034 Mar 16 21:28	20°♌50'17		direct	3039 Aug 22 01:37	24°♌53'21	
	3034 Jun 07 01:32	0°♏			3039 Oct 21 11:18	0°♌	
evening set	3034 Jul 21 14:16	9°♏22'09		evening set	3039 Dec 25 14:59	13°♌01'37	
				max. Earth dist.	3040 Jan 05 07:03	15°♌27'27	6.24468 AU
conjunction	3034 Aug 04 06:19	12°♏25'14	0°22'46				
minimum elong	3034 Aug 04 06:18	12°♏25'13	0°22'46	conjunction	3040 Jan 07 07:26	15°♌55'07	0°05'49
max. Earth dist.	3034 Aug 05 20:01	12°♏46'19	6.25485 AU	minimum elong	3040 Jan 07 07:26	15°♌55'07	0°05'49
	3034 Aug 15 19:43	15°♏		behind sun begin	3040 Jan 06 23:49	15°♌50'47	
morning rise	3034 Aug 17 21:26	15°♏27'35		behind sun end	3040 Jan 07 15:03	15°♌59'28	
	3034 Nov 02 12:06	0°♐		morning rise	3040 Jan 19 23:21	18°♌48'38	
retrograde	3034 Dec 19 22:57	3°♐23'51		desc. node	3040 Mar 11 16:14	29°♌41'09	
	3035 Feb 05 13:02	30°♏♏			3040 Mar 13 09:54	0°♐	
opposition	3035 Feb 17 20:09	28°♏23'24	0°55'35	retrograde	3040 May 24 09:15	7°♐11'57	
min. Earth dist.	3035 Feb 17 04:14	28°♏28'43	4.32404 AU	opposition	3040 Jul 24 03:02	2°♐18'16	0°-17'-56
direct	3035 Apr 19 12:22	23°♏21'16		min. Earth dist.	3040 Jul 25 09:27	2°♐08'29	4.16867 AU
	3035 Jun 28 10:24	0°♐			3040 Aug 11 18:12	30°♏♌	
evening set	3035 Aug 24 06:16	11°♐16'47		direct	3040 Sep 23 02:52	27°♌21'33	
					3040 Nov 03 16:49	0°♐	
conjunction	3035 Sep 06 16:07	14°♐11'53	0°50'19		3041 Jan 21 10:50	15°♐	
minimum elong	3035 Sep 06 16:05	14°♐11'52	0°50'18	evening set	3041 Jan 26 10:51	16°♐10'03	
max. Earth dist.	3035 Sep 07 01:53	14°♐17'13	6.38361 AU	max. Earth dist.	3041 Feb 06 22:16	18°♐52'14	6.09525 AU
morning rise	3035 Sep 19 23:53	17°♐05'46					
	3035 Nov 26 20:18	0°♑		conjunction	3041 Feb 08 05:26	19°♐10'38	0°-29'-26
retrograde	3036 Jan 19 09:33	4°♑12'03		minimum elong	3041 Feb 08 05:24	19°♐10'37	0°29'27
	3036 Mar 13 22:34	30°♏♐		morning rise	3041 Feb 21 00:59	22°♐12'00	
opposition	3036 Mar 19 15:46	29°♐15'15	1°24'56		3041 Mar 27 13:54	0°♑	
min. Earth dist.	3036 Mar 19 18:12	29°♐14'27	4.42836 AU	retrograde	3041 Jun 30 01:11	11°♑46'22	
direct	3036 May 20 12:27	24°♐12'28		opposition	3041 Aug 29 11:12	6°♑49'46	-1°-6'-53
	3036 Jul 25 06:55	0°♑		min. Earth dist.	3041 Aug 29 22:16	6°♑46'08	4.02908 AU
evening set	3036 Sep 24 03:10	11°♑45'00		direct	3041 Oct 27 22:36	1°♑55'17	
				evening set	3042 Mar 02 09:58	21°♑22'57	
conjunction	3036 Oct 07 05:54	14°♑34'20	1°02'45				
minimum elong	3036 Oct 07 05:53	14°♑34'20	1°02'45	conjunction	3042 Mar 15 09:36	24°♑30'55	0°-55'-45
max. Earth dist.	3036 Oct 06 12:47	14°♑25'06	6.45550 AU	minimum elong	3042 Mar 15 09:34	24°♑30'54	0°55'45
morning rise	3036 Oct 20 05:44	17°♑22'17		max. Earth dist.	3042 Mar 15 08:54	24°♑30'29	5.97823 AU
	3036 Dec 26 07:28	0°♒		morning rise	3042 Mar 28 11:40	27°♑40'20	
retrograde	3037 Feb 17 09:07	4°♒05'32			3042 Apr 07 06:02	0°♑	
	3037 Apr 12 17:05	30°♏♑		retrograde	3042 Aug 07 07:49	18°♑11'17	
opposition	3037 Apr 18 23:47	29°♑11'43	1°30'37	opposition	3042 Oct 06 06:37	13°♑10'48	-1°-32'-52
min. Earth dist.	3037 Apr 19 19:45	29°♑05'17	4.46464 AU	min. Earth dist.	3042 Oct 05 18:45	13°♑14'47	3.94775 AU
direct	3037 Jun 20 14:22	24°♑09'24		direct	3042 Dec 03 13:37	8°♑17'05	
	3037 Aug 26 00:32	0°♒		evening set	3043 Apr 08 06:54	28°♑05'27	
evening set	3037 Oct 24 21:03	11°♒36'01			3043 Apr 16 04:26	0°♒	
max. Earth dist.	3037 Nov 05 01:26	14°♒01'13	6.45279 AU				
				conjunction	3043 Apr 21 14:23	1°♒18'46	-1°-1'-13
conjunction	3037 Nov 06 17:43	14°♒23'05	0°58'07	minimum elong	3043 Apr 21 14:24	1°♒18'47	1°01'14
minimum elong	3037 Nov 06 17:45	14°♒23'06	0°58'07	max. Earth dist.	3043 Apr 23 00:23	1°♒39'23	5.94017 AU
	3037 Nov 09 13:42	15°♒		morning rise	3043 May 05 00:47	4°♒33'42	
morning rise	3037 Nov 19 12:00	17°♒09'03			3043 Jun 20 02:08	15°♒	
	3038 Jan 26 13:54	0°♌		retrograde	3043 Sep 14 10:59	25°♒16'31	
retrograde	3038 Mar 19 23:18	3°♌58'22		min. Earth dist.	3043 Nov 11 19:32	20°♒22'52	3.95870 AU
	3038 May 12 17:07	30°♏♒		opposition	3043 Nov 13 01:30	20°♒12'42	-1°-21'-48

direct	3044 Jan 09 21:46	15°♄17'36		min. Earth dist.	3049 Apr 24 04:33	3°♍21'25	4.46405 AU
	3044 Apr 23 17:06	0°♂			3049 May 23 06:05	30°♌♄	
evening set	3044 May 15 00:09	4°♂57'02		direct	3049 Jun 24 22:06	28°♄26'30	
					3049 Jul 27 19:50	0°♍	
conjunction	3044 May 28 14:57	8°♂11'07	0°-42'-25		3049 Oct 24 23:00	15°♍	
minimum elong	3044 May 28 14:59	8°♂11'08	0°42'27	evening set	3049 Oct 29 03:03	15°♍53'46	
max. Earth dist.	3044 May 30 21:02	8°♂43'16	5.99815 AU	max. Earth dist.	3049 Nov 09 05:41	18°♍18'15	6.44630 AU
morning rise	3044 Jun 11 08:23	11°♂26'19					
	3044 Sep 19 10:06	0°♄		conjunction	3049 Nov 10 23:16	18°♍40'52	0°56'07
retrograde	3044 Oct 19 17:48	1°♄28'52		minimum elong	3049 Nov 10 23:17	18°♍40'53	0°56'07
	3044 Nov 18 19:55	30°♌♂		morning rise	3049 Nov 23 16:49	21°♍26'52	
min. Earth dist.	3044 Dec 16 18:44	26°♂36'19	4.05681 AU		3050 Jan 04 13:49	0°♌	
opposition	3044 Dec 18 07:10	26°♂23'53	0°-39'-1	retrograde	3050 Mar 24 07:05	8°♌19'27	
direct	3045 Feb 14 15:19	21°♂25'55		opposition	3050 May 24 04:14	3°♌27'22	1°08'03
	3045 May 03 01:38	0°♄		min. Earth dist.	3050 May 25 14:37	3°♌16'25	4.41169 AU
evening set	3045 Jun 21 02:18	10°♄32'23			3050 Jun 23 04:23	30°♌♍	
				direct	3050 Jul 25 20:22	28°♍26'32	
conjunction	3045 Jul 04 20:16	13°♄41'56	0°-8'-11		3050 Aug 27 14:33	0°♌	
minimum elong	3045 Jul 04 20:17	13°♄41'57	0°08'12	evening set	3050 Nov 28 16:41	16°♌09'05	
behind sun begin	3045 Jul 04 12:54	13°♄37'43		max. Earth dist.	3050 Dec 09 05:22	18°♌29'12	6.35948 AU
behind sun end	3045 Jul 05 03:39	13°♄46'10					
max. Earth dist.	3045 Jul 07 01:51	14°♄12'47	6.12721 AU	conjunction	3050 Dec 11 09:38	18°♌58'17	0°33'45
morning rise	3045 Jul 18 14:58	16°♄51'34		minimum elong	3050 Dec 11 09:40	18°♌58'18	0°33'45
	3045 Sep 20 20:33	0°♌		morning rise	3050 Dec 24 01:05	21°♌46'56	
asc. node	3045 Sep 30 19:42	1°♌33'39			3051 Feb 01 01:56	0°♄	
retrograde	3045 Nov 22 15:21	5°♌45'23		retrograde	3051 Apr 25 17:18	9°♄18'20	
min. Earth dist.	3046 Jan 20 02:25	0°♌51'45	4.20239 AU	opposition	3051 Jun 25 14:24	4°♄26'06	0°26'47
opposition	3046 Jan 21 07:03	0°♌42'04	0°15'11	min. Earth dist.	3051 Jun 27 04:03	4°♄14'04	4.29492 AU
	3046 Jan 26 11:54	30°♌♄			3051 Aug 07 17:10	30°♌♌	
direct	3046 Mar 21 19:36	25°♄41'25		direct	3051 Aug 26 15:15	29°♌27'15	
	3046 May 14 19:26	0°♌			3051 Sep 14 12:10	0°♄	
evening set	3046 Jul 26 11:27	14°♌06'48		evening set	3051 Dec 30 02:49	17°♄41'20	
	3046 Jul 30 11:29	15°♌		max. Earth dist.	3052 Jan 09 20:29	20°♄08'50	6.22210 AU
conjunction	3046 Aug 09 02:43	17°♌08'35	0°27'24	conjunction	3052 Jan 11 19:30	20°♄35'51	0°00'46
minimum elong	3046 Aug 09 02:42	17°♌08'34	0°27'25	minimum elong	3052 Jan 11 19:31	20°♄35'51	0°00'47
max. Earth dist.	3046 Aug 10 13:09	17°♌27'44	6.27728 AU	behind sun begin	3052 Jan 11 11:32	20°♄31'17	
morning rise	3046 Aug 22 16:57	20°♌09'34		behind sun end	3052 Jan 12 03:30	20°♄40'25	
	3046 Oct 09 10:50	0°♎		desc. node	3052 Jan 20 02:47	22°♄30'20	
retrograde	3046 Dec 24 05:59	7°♎56'38		morning rise	3052 Jan 24 11:46	23°♄30'27	
opposition	3047 Feb 22 05:49	2°♎56'41	1°01'02		3052 Feb 22 19:12	0°♎	
min. Earth dist.	3047 Feb 21 15:50	3°♎01'21	4.34407 AU	retrograde	3052 May 29 08:55	12°♎04'09	
	3047 Mar 18 00:08	30°♌♌		opposition	3052 Jul 29 02:41	7°♎10'12	0°-25'-27
direct	3047 Apr 24 02:00	27°♌54'22		min. Earth dist.	3052 Jul 30 06:20	7°♎01'18	4.14586 AU
	3047 May 31 16:16	0°♎		direct	3052 Sep 27 20:31	2°♎13'54	
evening set	3047 Aug 28 19:56	15°♎45'04			3053 Jan 04 07:56	15°♎	
				evening set	3053 Jan 31 06:14	21°♎09'05	
conjunction	3047 Sep 11 04:47	18°♎39'06	0°53'03	max. Earth dist.	3053 Feb 11 22:00	23°♎54'37	6.07433 AU
minimum elong	3047 Sep 11 04:46	18°♎39'05	0°53'03				
max. Earth dist.	3047 Sep 11 10:47	18°♎42'22	6.39971 AU	conjunction	3053 Feb 13 01:17	24°♎10'48	0°-34'00
morning rise	3047 Sep 24 11:18	21°♎31'51		minimum elong	3053 Feb 13 01:16	24°♎10'47	0°34'01
	3047 Nov 04 23:14	0°♄		morning rise	3053 Feb 25 21:37	27°♎13'25	
retrograde	3048 Jan 23 14:46	8°♄32'41			3053 Mar 09 18:40	0°♎	
opposition	3048 Mar 23 22:00	3°♄36'25	1°27'10	retrograde	3053 Jul 05 10:37	16°♎57'54	
min. Earth dist.	3048 Mar 24 03:25	3°♄34'39	4.43959 AU	opposition	3053 Sep 03 17:57	12°♎00'49	-1°-12'-26
	3048 Apr 23 21:47	30°♌♎		min. Earth dist.	3053 Sep 04 02:06	11°♎58'08	4.01225 AU
direct	3048 May 24 22:45	28°♎33'42		direct	3053 Nov 02 01:19	7°♎06'35	
	3048 Jun 25 07:42	0°♄		evening set	3054 Mar 07 12:52	26°♎38'57	
evening set	3048 Sep 28 11:26	16°♄03'52					
				conjunction	3054 Mar 20 13:36	29°♎47'54	0°-57'-59
conjunction	3048 Oct 11 13:07	18°♄52'37	1°03'06	minimum elong	3054 Mar 20 13:35	29°♎47'53	0°58'00
minimum elong	3048 Oct 11 13:07	18°♄52'37	1°03'06	max. Earth dist.	3054 Mar 20 19:11	29°♎51'17	5.96735 AU
max. Earth dist.	3048 Oct 10 14:56	18°♄40'39	6.46086 AU		3054 Mar 21 09:36	0°♎	
morning rise	3048 Oct 24 12:08	21°♄40'02		morning rise	3054 Apr 02 16:44	2°♎58'19	
	3048 Dec 04 14:39	0°♍		retrograde	3054 Aug 12 18:37	23°♎33'52	
retrograde	3049 Feb 21 14:44	8°♍22'12		opposition	3054 Oct 11 15:49	18°♎32'53	-1°-33'-38
opposition	3049 Apr 23 05:53	3°♍28'42	1°29'26	min. Earth dist.	3054 Oct 11 00:37	18°♎37'58	3.94452 AU

direct	3054 Dec 08 19:28	13° Υ 39'10		conjunction	3060 Oct 15 19:08	23° Ω 07'50	1°03'08
	3055 Mar 30 01:37	0° \mathcal{B}		minimum elong	3060 Oct 15 19:08	23° Ω 07'50	1°03'07
evening set	3055 Apr 13 14:17	3° \mathcal{B} 27'27		max. Earth dist.	3060 Oct 14 18:04	22° Ω 54'18	6.46132 AU
				morning rise	3060 Oct 28 17:13	25° Ω 54'54	
conjunction	3055 Apr 26 22:43	6° \mathcal{B} 41'03	0°-59'-56		3060 Nov 17 02:42	0° \mathcal{M}	
minimum elong	3055 Apr 26 22:44	6° \mathcal{B} 41'04	0°59'56	retrograde	3061 Feb 25 19:38	12° \mathcal{M} 37'31	
max. Earth dist.	3055 Apr 28 11:48	7° \mathcal{B} 03'29	5.94465 AU	opposition	3061 Apr 27 11:40	7° \mathcal{M} 44'20	1°27'49
morning rise	3055 May 10 10:24	9° \mathcal{B} 56'17		min. Earth dist.	3061 Apr 28 12:39	7° \mathcal{M} 36'19	4.45879 AU
	3055 May 31 22:44	15° \mathcal{B}		direct	3061 Jun 29 04:57	2° \mathcal{M} 42'18	
	3055 Aug 31 17:46	0° \mathcal{I}			3061 Oct 08 16:47	15° \mathcal{M}	
retrograde	3055 Sep 19 15:23	0° \mathcal{I} 35'15		evening set	3061 Nov 02 09:00	20° \mathcal{M} 11'28	
	3055 Oct 08 11:04	30° \mathcal{R} \mathcal{B}		max. Earth dist.	3061 Nov 13 07:31	22° \mathcal{M} 34'12	6.43561 AU
min. Earth dist.	3055 Nov 16 22:01	25° \mathcal{B} 42'07	3.97043 AU				
opposition	3055 Nov 18 06:35	25° \mathcal{B} 31'03	-1°-17'-17	conjunction	3061 Nov 15 04:34	22° \mathcal{M} 58'46	0°53'50
direct	3056 Jan 15 03:21	20° \mathcal{B} 35'34		minimum elong	3061 Nov 15 04:35	22° \mathcal{M} 58'47	0°53'50
	3056 Apr 04 14:17	0° \mathcal{I}		morning rise	3061 Nov 27 21:51	25° \mathcal{M} 45'04	
evening set	3056 May 20 06:26	10° \mathcal{I} 10'18			3061 Dec 17 20:45	0° \mathcal{J}	
				retrograde	3062 Mar 28 18:01	12° \mathcal{J} 42'17	
conjunction	3056 Jun 02 22:01	13° \mathcal{I} 23'53	0°-38'-13	opposition	3062 May 28 14:46	7° \mathcal{J} 50'15	1°03'19
minimum elong	3056 Jun 02 22:04	13° \mathcal{I} 23'54	0°38'14	min. Earth dist.	3062 May 30 02:19	7° \mathcal{J} 38'55	4.39629 AU
max. Earth dist.	3056 Jun 05 05:50	13° \mathcal{I} 56'54	6.01597 AU	direct	3062 Jul 30 05:53	2° \mathcal{J} 49'38	
morning rise	3056 Jun 16 15:48	16° \mathcal{I} 38'23		evening set	3062 Dec 03 00:50	20° \mathcal{J} 36'30	
	3056 Aug 18 17:18	0° \mathcal{E}		max. Earth dist.	3062 Dec 13 14:41	22° \mathcal{J} 57'50	6.34069 AU
retrograde	3056 Oct 24 14:59	6° \mathcal{E} 31'00					
min. Earth dist.	3056 Dec 21 16:58	1° \mathcal{E} 38'04	4.07841 AU	conjunction	3062 Dec 15 17:46	23° \mathcal{J} 26'24	0°29'35
opposition	3056 Dec 23 04:08	1° \mathcal{E} 26'05	0°-31'-35	minimum elong	3062 Dec 15 17:48	23° \mathcal{J} 26'25	0°29'34
	3057 Jan 02 20:39	30° \mathcal{R} \mathcal{I}		morning rise	3062 Dec 28 09:03	26° \mathcal{J} 15'45	
direct	3057 Feb 19 16:33	26° \mathcal{I} 27'39			3063 Jan 14 10:29	0° \mathcal{Z}	
	3057 Apr 08 06:53	0° \mathcal{E}		retrograde	3063 Apr 30 09:55	13° \mathcal{Z} 55'11	
evening set	3057 Jun 26 02:56	15° \mathcal{E} 27'19		opposition	3063 Jun 30 07:44	9° \mathcal{Z} 02'49	0°19'47
				min. Earth dist.	3063 Jul 01 19:59	8° \mathcal{Z} 51'15	4.27405 AU
conjunction	3057 Jul 09 20:47	18° \mathcal{E} 35'46	0°-3'-2	direct	3063 Aug 31 04:22	4° \mathcal{Z} 04'23	
minimum elong	3057 Jul 09 20:49	18° \mathcal{E} 35'47	0°03'03	desc. node	3063 Nov 29 13:11	14° \mathcal{Z} 43'26	
behind sun begin	3057 Jul 09 12:28	18° \mathcal{E} 31'02		evening set	3064 Jan 03 16:19	22° \mathcal{Z} 24'09	
behind sun end	3057 Jul 10 05:10	18° \mathcal{E} 40'32		max. Earth dist.	3064 Jan 14 11:48	24° \mathcal{Z} 53'27	6.20087 AU
max. Earth dist.	3057 Jul 12 00:56	19° \mathcal{E} 05'35	6.15061 AU				
morning rise	3057 Jul 23 15:10	21° \mathcal{E} 44'10		conjunction	3064 Jan 16 09:02	25° \mathcal{Z} 19'35	0°-4'-22
asc. node	3057 Aug 11 02:22	25° \mathcal{E} 51'09		minimum elong	3064 Jan 16 09:02	25° \mathcal{Z} 19'34	0°04'22
	3057 Aug 30 19:44	0° Ω		behind sun begin	3064 Jan 16 01:11	25° \mathcal{Z} 15'04	
retrograde	3057 Nov 27 01:29	10° Ω 27'03		behind sun end	3064 Jan 16 16:53	25° \mathcal{Z} 24'05	
opposition	3058 Jan 25 19:31	5° Ω 24'08	0°22'23	morning rise	3064 Jan 29 01:46	28° \mathcal{Z} 15'15	
min. Earth dist.	3058 Jan 24 15:57	5° Ω 33'26	4.22538 AU		3064 Feb 05 17:12	0° \approx	
direct	3058 Mar 26 11:56	0° Ω 23'08			3064 Apr 28 10:48	15° \approx	
	3058 Jul 14 02:51	15° Ω		retrograde	3064 Jun 03 11:37	16° \approx 58'43	
evening set	3058 Jul 31 04:34	18° Ω 42'27			3064 Jul 09 18:13	15° \mathcal{R} \approx	
				opposition	3064 Aug 03 03:42	12° \approx 04'22	0°-32'-51
conjunction	3058 Aug 13 19:02	21° Ω 43'01	0°31'43	min. Earth dist.	3064 Aug 04 05:06	11° \approx 56'10	4.12585 AU
minimum elong	3058 Aug 13 19:01	21° Ω 43'00	0°31'43	direct	3064 Oct 02 17:39	7° \approx 08'23	
max. Earth dist.	3058 Aug 15 00:35	21° Ω 59'23	6.29802 AU		3064 Dec 15 23:40	15° \approx	
morning rise	3058 Aug 27 08:20	24° Ω 42'43		evening set	3065 Feb 05 02:09	26° \approx 08'56	
	3058 Sep 21 00:40	0° \mathcal{M}					
retrograde	3058 Dec 28 12:44	12° \mathcal{M} 21'43		conjunction	3065 Feb 17 21:55	29° \approx 11'40	0°-38'-20
opposition	3059 Feb 26 12:43	7° \mathcal{M} 22'18	1°05'57	minimum elong	3065 Feb 17 21:53	29° \approx 11'39	0°38'22
min. Earth dist.	3059 Feb 26 02:23	7° \mathcal{M} 25'43	4.36101 AU	max. Earth dist.	3065 Feb 16 23:42	28° \approx 58'26	6.05738 AU
direct	3059 Apr 28 14:29	2° \mathcal{M} 19'50			3065 Feb 21 07:05	0° \mathcal{H}	
evening set	3059 Sep 02 06:35	20° \mathcal{M} 06'44		morning rise	3065 Mar 02 18:55	2° \mathcal{H} 15'21	
				retrograde	3065 Jul 10 18:26	22° \mathcal{H} 08'02	
conjunction	3059 Sep 15 14:30	22° \mathcal{M} 59'54	0°55'26	opposition	3065 Sep 09 00:23	17° \mathcal{H} 10'26	-1°-17'-23
minimum elong	3059 Sep 15 14:28	22° \mathcal{M} 59'53	0°55'26	min. Earth dist.	3065 Sep 09 05:12	17° \mathcal{H} 08'51	4.00016 AU
max. Earth dist.	3059 Sep 15 16:10	23° \mathcal{M} 00'48	6.41153 AU	direct	3065 Nov 07 02:50	12° \mathcal{H} 16'26	
morning rise	3059 Sep 28 19:56	25° \mathcal{M} 51'44			3066 Mar 04 20:31	0° \mathcal{Y}	
	3059 Oct 18 09:34	0° Ω		evening set	3066 Mar 12 15:06	1° \mathcal{Y} 51'40	
retrograde	3060 Jan 27 17:14	12° Ω 48'41					
opposition	3060 Mar 28 02:21	7° Ω 52'50	1°28'55	conjunction	3066 Mar 25 16:35	5° \mathcal{Y} 01'17	0°-59'-44
min. Earth dist.	3060 Mar 28 10:00	7° Ω 50'20	4.44593 AU	minimum elong	3066 Mar 25 16:34	5° \mathcal{Y} 01'16	0°59'46
direct	3060 May 29 05:13	2° Ω 50'06		max. Earth dist.	3066 Mar 26 01:42	5° \mathcal{Y} 06'48	5.96093 AU
evening set	3060 Oct 02 18:15	20° Ω 19'27		morning rise	3066 Apr 07 20:55	8° \mathcal{Y} 12'30	

retrograde	3066 Aug 18 01:14	28° Υ 50'46		min. Earth dist.	3072 Apr 01 19:17	12° Ω 09'08	4.45000 AU
opposition	3066 Oct 16 22:38	23° Υ 49'15	-1°-33'-36	direct	3072 Jun 02 14:39	7° Ω 10'03	
min. Earth dist.	3066 Oct 16 03:54	23° Υ 55'32	3.94463 AU	evening set	3072 Oct 07 02:00	24° Ω 39'05	
direct	3066 Dec 14 00:17	18° Υ 55'24		max. Earth dist.	3072 Oct 18 21:47	27° Ω 11'55	6.46022 AU
	3067 Mar 11 22:53	0° \mathcal{B}					
evening set	3067 Apr 18 19:35	8° \mathcal{B} 42'44		conjunction	3072 Oct 20 02:05	27° Ω 27'12	1°02'49
				minimum elong	3072 Oct 20 02:06	27° Ω 27'13	1°02'48
conjunction	3067 May 02 05:13	11° \mathcal{B} 56'33	0°-58'-11		3072 Oct 31 21:17	0° \mathcal{M}	
minimum elong	3067 May 02 05:14	11° \mathcal{B} 56'34	0°58'12	morning rise	3072 Nov 01 23:23	0° \mathcal{M} 14'02	
max. Earth dist.	3067 May 03 22:43	12° \mathcal{B} 21'36	5.95125 AU		3073 Jan 25 02:03	15° \mathcal{M}	
	3067 May 14 21:53	15° \mathcal{B}		retrograde	3073 Mar 02 01:58	16° \mathcal{M} 57'39	
morning rise	3067 May 15 17:44	15° \mathcal{B} 11'53			3073 Apr 07 06:42	15° $\mathcal{R}\mathcal{M}$	
	3067 Jul 24 08:05	0° Π		opposition	3073 May 01 19:18	12° \mathcal{M} 04'43	1°25'43
retrograde	3067 Sep 24 18:45	5° Π 46'22		min. Earth dist.	3073 May 02 21:24	11° \mathcal{M} 56'21	4.45296 AU
min. Earth dist.	3067 Nov 22 00:01	0° Π 53'04	3.98269 AU	direct	3073 Jul 03 12:26	7° \mathcal{M} 02'53	
opposition	3067 Nov 23 08:44	0° Π 41'56	-1°-12'-15		3073 Sep 20 06:09	15° \mathcal{M}	
	3067 Nov 28 12:23	30° $\mathcal{R}\mathcal{B}$		evening set	3073 Nov 06 16:16	24° \mathcal{M} 33'56	
direct	3068 Jan 20 07:22	25° \mathcal{B} 46'06		max. Earth dist.	3073 Nov 17 14:31	26° \mathcal{M} 56'52	6.42573 AU
	3068 Mar 11 22:14	0° Π					
evening set	3068 May 25 10:20	15° Π 16'30		conjunction	3073 Nov 19 11:22	27° \mathcal{M} 21'25	0°51'13
				minimum elong	3073 Nov 19 11:24	27° \mathcal{M} 21'26	0°51'14
conjunction	3068 Jun 08 02:32	18° Π 29'36	0°-33'-49		3073 Dec 01 13:32	0° \mathcal{A}	
minimum elong	3068 Jun 08 02:34	18° Π 29'37	0°33'49	morning rise	3073 Dec 02 04:04	0° \mathcal{A} 07'54	
max. Earth dist.	3068 Jun 10 11:12	19° Π 02'58	6.03263 AU	retrograde	3074 Apr 02 05:12	17° \mathcal{A} 09'25	
morning rise	3068 Jun 21 20:49	21° Π 43'31		opposition	3074 Jun 02 02:45	12° \mathcal{A} 17'30	0°58'10
	3068 Jul 28 21:17	0° \mathcal{E}		min. Earth dist.	3074 Jun 03 14:46	12° \mathcal{A} 06'02	4.38309 AU
retrograde	3068 Oct 29 08:25	11° \mathcal{E} 27'01		direct	3074 Aug 03 16:41	7° \mathcal{A} 17'14	
min. Earth dist.	3068 Dec 26 11:22	6° \mathcal{E} 34'20	4.09771 AU	evening set	3074 Dec 07 10:05	25° \mathcal{A} 07'25	
opposition	3068 Dec 27 22:44	6° \mathcal{E} 22'18	0°-24'-6	max. Earth dist.	3074 Dec 17 23:00	27° \mathcal{A} 28'50	6.32530 AU
direct	3069 Feb 24 13:24	1° \mathcal{E} 23'32					
asc. node	3069 Jun 21 12:41	18° \mathcal{E} 08'46		conjunction	3074 Dec 20 02:40	27° \mathcal{A} 57'49	0°25'15
evening set	3069 Jul 01 01:47	20° \mathcal{E} 17'40		minimum elong	3074 Dec 20 02:42	27° \mathcal{A} 57'50	0°25'15
					3074 Dec 29 04:31	0° \mathcal{Z}	
conjunction	3069 Jul 14 19:23	23° \mathcal{E} 25'07	0°02'12	morning rise	3075 Jan 01 18:05	0° \mathcal{Z} 47'49	
minimum elong	3069 Jul 14 19:23	23° \mathcal{E} 25'08	0°02'12	retrograde	3075 May 05 04:17	18° \mathcal{Z} 34'08	
behind sun begin	3069 Jul 14 11:01	23° \mathcal{E} 20'23		opposition	3075 Jul 05 01:46	13° \mathcal{Z} 41'33	0°12'40
behind sun end	3069 Jul 15 03:45	23° \mathcal{E} 29'52		min. Earth dist.	3075 Jul 06 12:42	13° \mathcal{Z} 30'22	4.25744 AU
max. Earth dist.	3069 Jul 16 19:43	23° \mathcal{E} 52'39	6.17084 AU	direct	3075 Sep 04 19:21	8° \mathcal{Z} 43'25	
morning rise	3069 Jul 28 13:24	26° \mathcal{E} 32'26		desc. node	3075 Oct 09 22:04	10° \mathcal{Z} 34'54	
	3069 Aug 13 02:15	0° Ω		evening set	3076 Jan 08 05:16	27° \mathcal{Z} 07'10	
	3069 Nov 23 16:38	15° Ω		max. Earth dist.	3076 Jan 19 04:52	29° \mathcal{Z} 39'20	6.18459 AU
retrograde	3069 Dec 01 13:11	15° Ω 06'08					
	3069 Dec 09 09:09	15° $\mathcal{R}\Omega$		conjunction	3076 Jan 20 22:18	0° \approx 03'20	0°-9'-18
min. Earth dist.	3070 Jan 29 06:37	10° Ω 11'56	4.24463 AU	minimum elong	3076 Jan 20 22:17	0° \approx 03'20	0°09'19
opposition	3070 Jan 30 07:12	10° Ω 03'39	0°29'22	behind sun begin	3076 Jan 20 15:32	29° \mathcal{Z} 59'26	
direct	3070 Mar 31 05:10	5° Ω 02'23		behind sun end	3076 Jan 21 05:03	0° \approx 07'14	
	3070 Jun 26 08:00	15° Ω			3076 Jan 20 16:33	0° \approx	
evening set	3070 Aug 04 21:06	23° Ω 17'04		morning rise	3076 Feb 02 15:12	2° \approx 59'48	
					3076 Mar 30 16:16	15° \approx	
conjunction	3070 Aug 18 10:56	26° Ω 16'38	0°35'50	retrograde	3076 Jun 08 12:04	21° \approx 51'07	
minimum elong	3070 Aug 18 10:54	26° Ω 16'37	0°35'49	opposition	3076 Aug 08 03:29	16° \approx 56'24	0°-39'-52
max. Earth dist.	3070 Aug 19 13:44	26° Ω 31'26	6.31484 AU	min. Earth dist.	3076 Aug 09 02:31	16° \approx 48'58	4.11123 AU
morning rise	3070 Aug 31 23:09	29° Ω 15'13			3076 Aug 23 13:14	15° $\mathcal{R}\approx$	
	3070 Sep 04 09:07	0° \mathcal{M}		direct	3076 Oct 07 12:48	12° \approx 00'46	
retrograde	3071 Jan 01 17:46	16° \mathcal{M} 47'35			3076 Nov 20 12:18	15° \approx	
opposition	3071 Mar 02 19:37	11° \mathcal{M} 48'43	1°10'31		3077 Feb 05 06:50	0° \mathcal{H}	
min. Earth dist.	3071 Mar 02 11:00	11° \mathcal{M} 51'34	4.37437 AU	evening set	3077 Feb 09 20:31	1° \mathcal{H} 04'42	
direct	3071 May 03 00:17	6° \mathcal{M} 46'11					
evening set	3071 Sep 06 17:49	24° \mathcal{M} 30'31		conjunction	3077 Feb 22 16:37	4° \mathcal{H} 08'06	0°-42'-16
				minimum elong	3077 Feb 22 16:35	4° \mathcal{H} 08'05	0°42'16
conjunction	3071 Sep 20 00:39	27° \mathcal{M} 22'55	0°57'30	max. Earth dist.	3077 Feb 21 21:03	3° \mathcal{H} 56'26	6.04560 AU
minimum elong	3071 Sep 20 00:38	27° \mathcal{M} 22'54	0°57'30	morning rise	3077 Mar 07 14:28	7° \mathcal{H} 12'38	
max. Earth dist.	3071 Sep 19 21:29	27° \mathcal{M} 21'12	6.42043 AU	retrograde	3077 Jul 15 20:51	27° \mathcal{H} 11'24	
	3071 Oct 02 03:04	0° Ω		opposition	3077 Sep 14 03:20	22° \mathcal{H} 13'13	-1°-21'-31
morning rise	3071 Oct 03 05:06	0° Ω 14'00		min. Earth dist.	3077 Sep 14 04:35	22° \mathcal{H} 12'48	3.99247 AU
retrograde	3072 Jan 31 23:18	17° Ω 08'04		direct	3077 Nov 12 02:09	17° \mathcal{H} 19'16	
opposition	3072 Apr 01 08:15	12° Ω 12'43	1°30'13		3078 Feb 15 21:01	0° Υ	

evening set	3078 Mar 17 14:01	6°Υ55'55		conjunction	3083 Sep 24 09:55	1°♄43'10	0°59'12
				minimum elong	3083 Sep 24 09:54	1°♄43'09	0°59'11
conjunction	3078 Mar 30 16:34	10°Υ06'06	-1°00'-57	max. Earth dist.	3083 Sep 24 04:42	1°♄40'21	6.42746 AU
minimum elong	3078 Mar 30 16:33	10°Υ06'06	1°00'58	morning rise	3083 Oct 07 13:13	4°♄33'34	
max. Earth dist.	3078 Mar 31 07:03	10°Υ14'53	5.95809 AU	retrograde	3084 Feb 05 02:37	21°♄25'11	
morning rise	3078 Apr 12 21:45	13°Υ17'52		opposition	3084 Apr 05 13:33	16°♄30'13	1°30'58
	3078 Jul 03 04:40	0°♄		min. Earth dist.	3084 Apr 06 01:38	16°♄26'18	4.45327 AU
retrograde	3078 Aug 23 05:45	3°♄57'13		direct	3084 Jun 06 21:01	11°♄27'39	
	3078 Oct 13 22:43	30°♄Υ		evening set	3084 Oct 11 09:06	28°♄56'16	
min. Earth dist.	3078 Oct 21 05:04	29°Υ01'55	3.94705 AU		3084 Oct 16 07:39	0°♄	
opposition	3078 Oct 22 00:55	28°Υ55'14	-1°-32'-48	max. Earth dist.	3084 Oct 23 01:24	1°♄27'22	6.45939 AU
direct	3078 Dec 19 02:09	24°Υ01'11					
	3079 Feb 19 01:45	0°♄		conjunction	3084 Oct 24 08:17	1°♄44'05	1°02'07
evening set	3079 Apr 23 20:40	13°♄46'56		minimum elong	3084 Oct 24 08:17	1°♄44'05	1°02'08
	3079 Apr 28 22:25	15°♄		morning rise	3084 Nov 06 04:50	4°♄30'39	
					3084 Dec 29 09:02	15°♄	
conjunction	3079 May 07 07:15	17°♄00'52	0°-56'-3	retrograde	3085 Mar 06 08:54	21°♄14'59	
minimum elong	3079 May 07 07:16	17°♄00'54	0°56'04	opposition	3085 May 06 02:22	16°♄22'17	1°23'06
max. Earth dist.	3079 May 09 02:55	17°♄27'10	5.95852 AU	min. Earth dist.	3085 May 07 06:45	16°♄13'13	4.44791 AU
morning rise	3079 May 20 20:51	20°♄16'19			3085 May 16 22:39	15°♄♄	
	3079 Jul 02 20:28	0°♄		direct	3085 Jul 07 20:57	11°♄20'37	
retrograde	3079 Sep 29 15:52	10°♄46'00			3085 Aug 28 05:34	15°♄	
min. Earth dist.	3079 Nov 26 19:58	5°♄53'01	3.99414 AU	evening set	3085 Nov 10 22:08	28°♄52'58	
opposition	3079 Nov 28 06:02	5°♄41'25	-1°-6'-54		3085 Nov 16 01:04	0°♄	
direct	3080 Jan 25 04:27	0°♄45'13		max. Earth dist.	3085 Nov 21 17:40	1°♄14'48	6.41647 AU
evening set	3080 May 30 10:14	20°♄11'58					
				conjunction	3085 Nov 23 16:45	1°♄40'37	0°48'20
conjunction	3080 Jun 13 02:55	23°♄24'37	0°-29'-21	minimum elong	3085 Nov 23 16:47	1°♄40'38	0°48'19
minimum elong	3080 Jun 13 02:57	23°♄24'38	0°29'22	morning rise	3085 Dec 06 09:09	4°♄27'21	
max. Earth dist.	3080 Jun 15 09:47	23°♄56'49	6.04719 AU	retrograde	3086 Apr 06 15:27	21°♄33'05	
morning rise	3080 Jun 26 21:36	26°♄38'01		opposition	3086 Jun 06 13:48	16°♄41'07	0°52'42
	3080 Jul 11 13:20	0°♄		min. Earth dist.	3086 Jun 08 01:36	16°♄29'42	4.36990 AU
retrograde	3080 Nov 02 23:36	16°♄13'35		direct	3086 Aug 08 01:18	11°♄41'03	
min. Earth dist.	3080 Dec 31 04:03	11°♄20'29	4.11373 AU	evening set	3086 Dec 11 17:40	29°♄34'37	
opposition	3081 Jan 01 13:38	11°♄09'03	0°-16'-46		3086 Dec 13 15:07	0°♄	
direct	3081 Mar 01 08:37	6°♄09'52		max. Earth dist.	3086 Dec 22 08:13	1°♄57'26	6.30905 AU
asc. node	3081 May 03 14:03	12°♄03'31					
evening set	3081 Jul 05 21:36	24°♄59'54		conjunction	3086 Dec 24 10:13	2°♄25'36	0°20'46
				minimum elong	3086 Dec 24 10:14	2°♄25'37	0°20'46
conjunction	3081 Jul 19 15:13	28°♄06'36	0°07'07	morning rise	3087 Jan 06 01:29	5°♄16'14	
minimum elong	3081 Jul 19 15:12	28°♄06'35	0°07'08	retrograde	3087 May 09 22:00	23°♄10'02	
behind sun begin	3081 Jul 19 07:32	28°♄02'15		opposition	3087 Jul 09 18:46	18°♄17'17	0°05'28
behind sun end	3081 Jul 19 22:52	28°♄10'55		min. Earth dist.	3087 Jul 11 05:18	18°♄06'15	4.23891 AU
max. Earth dist.	3081 Jul 21 14:20	28°♄33'19	6.18727 AU	desc. node	3087 Aug 20 06:06	13°♄56'57	
	3081 Jul 27 23:18	0°♄		direct	3087 Sep 09 08:47	13°♄19'32	
morning rise	3081 Aug 02 08:39	1°♄12'57			3088 Jan 04 20:45	0°♄	
	3081 Oct 10 23:04	15°♄		evening set	3088 Jan 12 17:42	1°♄48'16	
retrograde	3081 Dec 05 22:10	19°♄38'53		max. Earth dist.	3088 Jan 23 18:04	4°♄21'36	6.16520 AU
	3082 Jan 31 19:47	15°♄♄					
opposition	3082 Feb 03 16:35	14°♄36'54	0°35'55	conjunction	3088 Jan 25 10:49	4°♄45'19	0°-14'-13
min. Earth dist.	3082 Feb 02 17:18	14°♄44'44	4.26013 AU	minimum elong	3088 Jan 25 10:48	4°♄45'19	0°14'14
direct	3082 Apr 04 17:35	9°♄35'27		behind sun begin	3088 Jan 25 06:48	4°♄43'00	
	3082 Jun 05 11:12	15°♄		behind sun end	3088 Jan 25 14:49	4°♄47'38	
evening set	3082 Aug 09 11:55	27°♄46'46		morning rise	3088 Feb 07 04:22	7°♄42'50	
	3082 Aug 19 14:22	0°♄			3088 Mar 10 20:08	15°♄	
				retrograde	3088 Jun 13 12:17	26°♄43'37	
conjunction	3082 Aug 23 00:51	0°♄45'27	0°39'35	opposition	3088 Aug 13 03:06	21°♄48'27	0°-46'-44
minimum elong	3082 Aug 23 00:49	0°♄45'25	0°39'35	min. Earth dist.	3088 Aug 13 23:08	21°♄41'57	4.09248 AU
max. Earth dist.	3082 Aug 23 22:35	0°♄57'25	6.32825 AU	direct	3088 Oct 12 07:06	16°♄53'05	
morning rise	3082 Sep 05 12:18	3°♄43'06			3089 Jan 19 12:06	0°♄	
retrograde	3083 Jan 06 00:27	21°♄10'05		evening set	3089 Feb 14 15:30	6°♄02'24	
opposition	3083 Mar 07 01:58	16°♄11'43	1°14'32				
min. Earth dist.	3083 Mar 06 20:28	16°♄13'32	4.38495 AU	conjunction	3089 Feb 27 12:26	9°♄06'52	0°-45'-58
direct	3083 May 07 10:53	11°♄09'05		minimum elong	3089 Feb 27 12:24	9°♄06'50	0°45'59
evening set	3083 Sep 11 03:51	28°♄51'23		max. Earth dist.	3089 Feb 26 22:01	8°♄58'13	6.02925 AU
	3083 Sep 16 11:12	0°♄		morning rise	3089 Mar 12 11:01	12°♄12'28	
					3089 Jun 12 09:11	0°♄	

retrograde	3089 Jul 21 04:23	2°♏19'22		opposition	3095 Mar 11 08:19	20°♐35'42	1°18'09
	3089 Aug 29 02:27	30°♐♏		min. Earth dist.	3095 Mar 11 04:31	20°♐36'58	4.40221 AU
opposition	3089 Sep 19 08:10	27°♐20'43	-1°-25'-13	direct	3095 May 11 20:54	15°♐33'02	
min. Earth dist.	3089 Sep 19 07:23	27°♐20'58	3.98024 AU		3095 Aug 31 12:11	0°♏	
direct	3089 Nov 17 03:43	22°♐26'55		evening set	3095 Sep 15 13:02	3°♏10'54	
	3090 Jan 27 01:58	0°♏					
evening set	3090 Mar 22 15:39	12°♏06'55		conjunction	3095 Sep 28 17:51	6°♏01'41	1°00'34
				minimum elong	3095 Sep 28 17:50	6°♏01'41	1°00'34
conjunction	3090 Apr 04 19:12	15°♏17'55	-1°-1'-45	max. Earth dist.	3095 Sep 28 07:44	5°♏56'13	6.44068 AU
minimum elong	3090 Apr 04 19:12	15°♏17'55	1°01'46	morning rise	3095 Oct 11 20:12	8°♏51'09	
max. Earth dist.	3090 Apr 05 13:09	15°♏28'48	5.95100 AU	retrograde	3096 Feb 09 05:56	25°♏38'31	
morning rise	3090 Apr 18 01:43	18°♏30'34		opposition	3096 Apr 09 17:32	20°♏43'52	1°31'13
	3090 Jun 08 06:54	0°♏		min. Earth dist.	3096 Apr 10 08:55	20°♏38'54	4.46168 AU
retrograde	3090 Aug 28 11:36	9°♏12'33		direct	3096 Jun 11 04:37	15°♏41'17	
min. Earth dist.	3090 Oct 26 07:02	4°♏17'56	3.94623 AU		3096 Sep 30 18:16	0°♐	
opposition	3090 Oct 27 06:10	4°♏10'08	-1°-31'-18	evening set	3096 Oct 15 13:08	3°♐07'41	
	3090 Dec 03 12:17	30°♐♏		max. Earth dist.	3096 Oct 27 02:28	5°♐37'09	6.46216 AU
direct	3090 Dec 24 04:22	29°♏15'55					
	3091 Jan 13 21:58	0°♏		conjunction	3096 Oct 28 11:38	5°♐55'05	1°01'08
	3091 Apr 12 00:36	15°♏		minimum elong	3096 Oct 28 11:39	5°♐55'06	1°01'08
evening set	3091 Apr 29 02:06	19°♏01'31		morning rise	3096 Nov 10 07:18	8°♐41'13	
					3096 Dec 10 16:56	15°♐	
conjunction	3091 May 12 13:44	22°♏15'42	0°-53'-25	retrograde	3097 Mar 10 11:00	25°♐25'28	
minimum elong	3091 May 12 13:46	22°♏15'44	0°53'26	opposition	3097 May 10 06:39	20°♐32'53	1°20'08
max. Earth dist.	3091 May 14 11:36	22°♏43'16	5.96396 AU	min. Earth dist.	3097 May 11 12:00	20°♐23'30	4.44485 AU
morning rise	3091 May 26 04:22	25°♏31'21		direct	3097 Jul 12 00:39	15°♐31'19	
	3091 Jun 14 07:11	0°♐			3097 Oct 31 17:35	0°♑	
retrograde	3091 Oct 04 17:25	15°♐56'40		evening set	3097 Nov 15 00:51	3°♑04'26	
min. Earth dist.	3091 Dec 01 20:48	11°♐03'38	4.00514 AU	max. Earth dist.	3097 Nov 25 18:14	5°♑25'26	6.40766 AU
opposition	3091 Dec 03 07:11	10°♐51'55	-1°00'-52				
direct	3092 Jan 30 07:58	5°♐55'20		conjunction	3097 Nov 27 18:55	5°♑52'13	0°45'16
evening set	3092 Jun 04 14:29	25°♐18'30		minimum elong	3097 Nov 27 18:57	5°♑52'13	0°45'16
				morning rise	3097 Dec 10 10:57	8°♑39'09	
conjunction	3092 Jun 18 07:52	28°♐30'43	0°-24'-29	retrograde	3098 Apr 11 00:16	25°♑49'12	
minimum elong	3092 Jun 18 07:53	28°♐30'44	0°24'31	opposition	3098 Jun 10 21:54	20°♑57'12	0°47'05
max. Earth dist.	3092 Jun 20 16:38	29°♐03'53	6.06301 AU	min. Earth dist.	3098 Jun 12 11:41	20°♑45'11	4.35551 AU
	3092 Jun 24 16:44	0°♑		direct	3098 Aug 12 08:28	15°♑57'20	
morning rise	3092 Jul 02 02:41	1°♑43'27			3098 Nov 28 03:57	0°♒	
retrograde	3092 Nov 07 18:34	21°♑10'10		evening set	3098 Dec 15 22:36	3°♒54'50	
min. Earth dist.	3093 Jan 04 22:53	16°♑17'12	4.13282 AU	max. Earth dist.	3098 Dec 26 11:24	6°♒17'19	6.29007 AU
opposition	3093 Jan 06 08:10	16°♑05'54	0°-9'-4				
direct	3093 Mar 06 06:20	11°♑06'25		conjunction	3098 Dec 28 15:04	6°♒46'33	0°16'17
asc. node	3093 Mar 13 08:52	11°♑11'28		minimum elong	3098 Dec 28 15:05	6°♒46'33	0°16'18
evening set	3093 Jul 10 20:50	29°♑50'57		morning rise	3099 Jan 10 06:35	9°♒38'02	
	3093 Jul 11 12:57	0°♒		retrograde	3099 May 14 13:12	27°♒40'31	
				desc. node	3099 Jul 02 01:22	24°♒20'39	
conjunction	3093 Jul 24 13:54	2°♒56'31	0°12'10	opposition	3099 Jul 14 09:38	22°♒47'29	0°-1'-37
minimum elong	3093 Jul 24 13:53	2°♒56'31	0°12'10	min. Earth dist.	3099 Jul 15 18:48	22°♒36'50	4.21642 AU
behind sun begin	3093 Jul 24 08:24	2°♒53'26		direct	3099 Sep 13 18:24	17°♒49'57	
behind sun end	3093 Jul 24 19:22	2°♒59'36			3099 Dec 19 13:19	0°♓	
max. Earth dist.	3093 Jul 26 09:46	3°♒21'18	6.20818 AU	evening set	3100 Jan 17 04:34	6°♓25'20	
morning rise	3093 Aug 07 06:53	6°♒01'42		max. Earth dist.	3100 Jan 28 08:33	9°♓01'32	6.14113 AU
	3093 Sep 18 15:30	15°♒					
retrograde	3093 Dec 10 08:43	24°♒18'08		conjunction	3100 Jan 29 22:12	9°♓23'34	0°-18'-58
min. Earth dist.	3094 Feb 07 06:59	19°♒23'42	4.28122 AU	minimum elong	3100 Jan 29 22:11	9°♓23'33	0°18'58
opposition	3094 Feb 08 04:19	19°♒16'32	0°42'24	morning rise	3100 Feb 11 16:12	12°♓22'19	
	3094 Mar 18 17:44	15°♒♒			3100 Feb 23 01:44	15°♓	
direct	3094 Apr 09 10:07	14°♒14'49			3100 May 18 15:24	0°♐	
	3094 May 01 08:35	15°♒		retrograde	3100 Jun 19 14:25	1°♐34'30	
	3094 Aug 03 08:00	0°♐			3100 Jul 21 14:38	30°♐♐	
evening set	3094 Aug 14 03:52	2°♐20'30		opposition	3100 Aug 19 02:27	26°♐38'58	0°-53'-14
				min. Earth dist.	3100 Aug 19 21:17	26°♐32'51	4.06871 AU
conjunction	3094 Aug 27 16:01	5°♐17'59	0°43'12	direct	3100 Oct 18 01:51	21°♐43'53	
minimum elong	3094 Aug 27 15:59	5°♐17'58	0°43'12		3101 Jan 01 18:50	0°♐	
max. Earth dist.	3094 Aug 28 11:57	5°♐28'55	6.34812 AU				
morning rise	3094 Sep 10 02:09	8°♐14'18					
retrograde	3095 Jan 10 04:50	25°♐33'36					

evening set	3100 Jan 17 04:34	6° \approx 25'20		conjunction	3105 Jul 30 13:35	7° Ω 47'26	0°17'11
max. Earth dist.	3100 Jan 28 08:33	9° \approx 01'32	6.14113 AU	minimum elong	3105 Jul 30 13:34	7° Ω 47'25	0°17'10
conjunction	3100 Jan 29 22:12	9° \approx 23'34	0°-18'-58	max. Earth dist.	3105 Aug 01 07:38	8° Ω 11'04	6.23103 AU
minimum elong	3100 Jan 29 22:11	9° \approx 23'33	0°18'58	morning rise	3105 Aug 13 05:38	10° Ω 51'13	
morning rise	3100 Feb 11 16:12	12° \approx 22'19			3105 Sep 01 04:18	15° Ω	
	3100 Feb 23 01:44	15° \approx		retrograde	3105 Dec 15 20:15	28° Ω 57'40	
	3100 May 18 15:24	0° \approx		opposition	3106 Feb 13 16:22	23° Ω 56'35	0°48'41
retrograde	3100 Jun 19 14:25	1° \approx 34'30		min. Earth dist.	3106 Feb 12 21:24	24° Ω 02'55	4.30297 AU
	3100 Jul 21 14:38	30° \approx		direct	3106 Apr 15 03:07	18° Ω 54'40	
opposition	3100 Aug 19 02:27	26° \approx 38'58	0°-53'-14	evening set	3106 Jul 17 20:11	0° \approx	
min. Earth dist.	3100 Aug 19 21:17	26° \approx 32'51	4.06871 AU		3106 Aug 19 20:17	6° \approx 54'51	
direct	3100 Oct 18 01:51	21° \approx 43'53		conjunction	3106 Sep 02 07:19	9° \approx 51'08	0°46'36
	3101 Jan 01 18:50	0° \approx		minimum elong	3106 Sep 02 07:17	9° \approx 51'07	0°46'37
evening set	3101 Feb 20 11:15	11° \approx 00'36		max. Earth dist.	3106 Sep 02 22:13	9° \approx 59'16	6.36680 AU
conjunction	3101 Mar 05 08:59	14° \approx 06'23	0°-49'-18	morning rise	3106 Sep 15 16:28	12° \approx 46'15	
minimum elong	3101 Mar 05 08:57	14° \approx 06'21	0°49'19	retrograde	3107 Jan 15 10:45	29° \approx 58'49	
max. Earth dist.	3101 Mar 04 21:24	13° \approx 59'25	6.00795 AU	opposition	3107 Mar 16 15:44	25° \approx 01'23	1°21'26
morning rise	3101 Mar 18 08:47	17° \approx 13'27		min. Earth dist.	3107 Mar 16 14:52	25° \approx 01'40	4.41670 AU
	3101 May 15 20:28	0° \approx		direct	3107 May 17 08:04	19° \approx 58'39	
retrograde	3101 Jul 27 11:44	7° \approx 30'14		evening set	3107 Aug 15 00:47	0° \approx	
opposition	3101 Sep 25 13:55	2° \approx 31'04	-1°-28'-15		3107 Sep 20 23:04	7° \approx 33'20	
min. Earth dist.	3101 Sep 25 08:57	2° \approx 32'43	3.96391 AU	conjunction	3107 Oct 04 03:02	10° \approx 23'22	1°01'40
	3101 Oct 15 13:00	30° \approx		minimum elong	3107 Oct 04 03:01	10° \approx 23'22	1°01'40
direct	3101 Nov 23 03:50	27° \approx 37'22		max. Earth dist.	3107 Oct 03 14:20	10° \approx 16'31	6.44989 AU
	3101 Dec 31 05:55	0° \approx		morning rise	3107 Oct 17 04:08	13° \approx 12'02	
evening set	3102 Mar 28 19:54	17° \approx 22'28		retrograde	3108 Feb 14 10:06	29° \approx 56'48	
conjunction	3102 Apr 11 00:42	20° \approx 34'31	-1°-2'-2	opposition	3108 Apr 14 23:28	25° \approx 02'35	1°31'03
minimum elong	3102 Apr 11 00:42	20° \approx 34'31	1°02'02	min. Earth dist.	3108 Apr 15 16:43	24° \approx 57'00	4.46522 AU
max. Earth dist.	3102 Apr 11 23:30	20° \approx 48'22	5.94125 AU	direct	3108 Jun 16 11:55	20° \approx 00'08	
morning rise	3102 Apr 24 08:29	23° \approx 48'13			3108 Sep 14 12:51	0° \approx	
	3102 May 20 17:42	0° \approx		evening set	3108 Oct 20 20:02	7° \approx 26'08	
retrograde	3102 Sep 03 20:36	14° \approx 33'29		max. Earth dist.	3108 Nov 01 04:07	9° \approx 53'01	6.45966 AU
opposition	3102 Nov 02 13:40	9° \approx 30'33	-1°-28'-59	conjunction	3108 Nov 02 17:36	10° \approx 13'19	0°59'50
min. Earth dist.	3102 Nov 01 12:12	9° \approx 39'10	3.94418 AU	minimum elong	3108 Nov 02 17:37	10° \approx 13'20	0°59'50
direct	3102 Dec 30 10:48	4° \approx 36'06		morning rise	3108 Nov 15 12:43	12° \approx 59'19	
	3103 Mar 25 06:28	15° \approx			3108 Nov 24 22:31	15° \approx	
evening set	3103 May 05 10:25	24° \approx 21'48		retrograde	3109 Mar 15 20:03	29° \approx 45'20	
conjunction	3103 May 18 23:20	27° \approx 36'17	0°-50'-16	opposition	3109 May 15 14:51	24° \approx 52'58	1°16'41
minimum elong	3103 May 18 23:22	27° \approx 36'19	0°50'16	min. Earth dist.	3109 May 16 22:57	24° \approx 42'42	4.43647 AU
max. Earth dist.	3103 May 21 02:13	28° \approx 06'48	5.96986 AU	direct	3109 Jul 17 09:32	19° \approx 51'33	
	3103 May 28 23:26	0° \approx			3109 Oct 15 13:41	0° \approx	
morning rise	3103 Jun 01 14:53	0° \approx 52'04		evening set	3109 Nov 20 07:28	7° \approx 27'12	
retrograde	3103 Oct 10 22:07	21° \approx 12'06		max. Earth dist.	3109 Nov 30 23:11	9° \approx 47'43	6.39396 AU
min. Earth dist.	3103 Dec 07 22:45	16° \approx 19'21	4.01811 AU	conjunction	3109 Dec 03 01:19	10° \approx 15'22	0°41'51
opposition	3103 Dec 09 10:22	16° \approx 10'13	0°-54'-12	minimum elong	3109 Dec 03 01:20	10° \approx 15'23	0°41'51
direct	3104 Feb 05 12:48	11° \approx 10'14		morning rise	3109 Dec 15 17:04	13° \approx 02'46	
	3104 Jun 08 19:11	0° \approx			3110 Apr 02 07:47	0° \approx	
evening set	3104 Jun 10 21:08	0° \approx 28'52		retrograde	3110 Apr 16 12:58	0° \approx 18'55	
conjunction	3104 Jun 24 14:40	3° \approx 40'21	0°-19'-21		3110 Apr 30 19:03	30° \approx	
minimum elong	3104 Jun 24 14:42	3° \approx 40'22	0°19'22	opposition	3110 Jun 16 11:26	25° \approx 26'52	0°40'56
max. Earth dist.	3104 Jun 26 22:36	4° \approx 12'52	6.08149 AU	min. Earth dist.	3110 Jun 18 00:36	25° \approx 15'01	4.33732 AU
morning rise	3104 Jul 08 09:46	6° \approx 52'16		direct	3110 Aug 17 17:48	20° \approx 27'17	
retrograde	3104 Nov 13 12:20	26° \approx 08'49			3110 Nov 11 11:08	0° \approx	
min. Earth dist.	3105 Jan 10 18:44	21° \approx 15'51	4.15447 AU	evening set	3110 Dec 21 08:52	8° \approx 29'54	
opposition	3105 Jan 12 03:28	21° \approx 04'44	0°-1'-12	max. Earth dist.	3110 Dec 31 23:08	10° \approx 53'54	6.26883 AU
asc. node	3105 Jan 21 01:02	19° \approx 53'02		conjunction	3111 Jan 03 01:19	11° \approx 22'27	0°11'30
direct	3105 Mar 12 05:42	16° \approx 04'48		minimum elong	3111 Jan 03 01:20	11° \approx 22'27	0°11'29
	3105 Jun 25 08:52	0° \approx		behind sun begin	3111 Jan 02 19:31	11° \approx 19'10	
evening set	3105 Jul 16 20:54	4° \approx 43'03		behind sun end	3111 Jan 03 07:08	11° \approx 25'45	
				morning rise	3111 Jan 15 16:59	14° \approx 14'52	

	3111 Apr 10 02:43	0°♊		3116 Oct 24 19:08	0°♈	
desc. node	3111 May 12 10:21	2°♊20'49	retrograde	3116 Nov 18 03:58	0°♈57'28	
retrograde	3111 May 20 12:34	2°♊26'58	asc. node	3116 Dec 01 03:50	0°♈40'28	
	3111 Jun 30 08:05	30°♊♌		3116 Dec 12 05:49	30°♊♌	
opposition	3111 Jul 20 06:57	27°♊33'43 0°-9'-8	opposition	3117 Jan 16 19:06	25°♊53'40 0°06'20	
min. Earth dist.	3111 Jul 21 15:47	27°♊23'10 4.19348 AU	min. Earth dist.	3117 Jan 15 12:36	26°♊04'00 4.17823 AU	
direct	3111 Sep 19 12:23	22°♊36'32	direct	3117 Mar 17 02:28	20°♊53'24	
	3111 Dec 01 00:39	0°♊		3117 Jun 06 22:22	0°♈	
evening set	3112 Jan 22 21:32	11°♊18'31	evening set	3117 Jul 21 16:41	9°♈24'54	
max. Earth dist.	3112 Feb 03 04:02	13°♊57'00 6.11857 AU				
			conjunction	3117 Aug 04 08:42	12°♈28'01 0°21'54	
conjunction	3112 Feb 04 15:34	14°♊17'53 0°-23'-51	minimum elong	3117 Aug 04 08:41	12°♈28'00 0°21'54	
minimum elong	3112 Feb 04 15:32	14°♊17'52 0°23'51	max. Earth dist.	3117 Aug 05 23:09	12°♈49'30 6.25367 AU	
	3112 Feb 07 15:13	15°♊		3117 Aug 15 17:07	15°♈	
morning rise	3112 Feb 17 10:18	17°♊17'54	morning rise	3117 Aug 18 00:00	15°♈30'28	
	3112 Apr 17 06:57	0°♋		3117 Nov 02 05:22	0°♏	
retrograde	3112 Jun 24 19:47	6°♋40'43	retrograde	3117 Dec 20 02:12	3°♏27'37	
opposition	3112 Aug 24 07:20	1°♋44'44 0°-59'-42		3118 Feb 06 05:30	30°♋♌	
min. Earth dist.	3112 Aug 24 22:09	1°♋39'55 4.04885 AU	min. Earth dist.	3118 Feb 17 08:00	28°♋32'38 4.32278 AU	
	3112 Sep 06 23:55	30°♋♌	opposition	3118 Feb 18 00:54	28°♋27'00 0°54'26	
direct	3112 Oct 23 00:36	26°♋49'58	direct	3118 Apr 19 15:38	23°♋24'53	
	3112 Dec 06 23:04	0°♋		3118 Jun 28 04:56	0°♏	
evening set	3113 Feb 25 12:10	16°♋12'26	evening set	3118 Aug 24 09:01	11°♏20'22	
conjunction	3113 Mar 10 10:45	19°♋19'16 0°-52'-26	conjunction	3118 Sep 06 19:07	14°♏15'37 0°49'38	
minimum elong	3113 Mar 10 10:43	19°♋19'15 0°52'28	minimum elong	3118 Sep 06 19:05	14°♏15'36 0°49'37	
max. Earth dist.	3113 Mar 10 04:36	19°♋15'33 5.99279 AU	max. Earth dist.	3118 Sep 07 05:56	14°♏21'30 6.38236 AU	
morning rise	3113 Mar 23 11:31	22°♋27'28	morning rise	3118 Sep 20 03:03	17°♏09'38	
	3113 Apr 25 02:21	0°♌		3118 Nov 26 12:19	0°♎	
retrograde	3113 Aug 01 23:15	12°♌51'22	retrograde	3119 Jan 19 14:59	4°♎16'46	
opposition	3113 Sep 30 23:27	7°♌51'36 -1°-30'-41		3119 Mar 15 17:44	30°♌♏	
min. Earth dist.	3113 Sep 30 15:24	7°♌54'17 3.95538 AU	opposition	3119 Mar 20 20:39	29°♏19'54 1°24'11	
direct	3113 Nov 28 10:34	2°♌57'55	min. Earth dist.	3119 Mar 20 22:58	29°♏19'08 4.42711 AU	
evening set	3114 Apr 03 02:37	22°♌44'44	direct	3119 May 21 17:00	24°♏17'10	
				3119 Jul 25 22:35	0°♎	
conjunction	3114 Apr 16 08:38	25°♌57'22 -1°-1'-51	evening set	3119 Sep 25 06:55	11°♎49'57	
minimum elong	3114 Apr 16 08:39	25°♌57'22 1°01'53				
max. Earth dist.	3114 Apr 17 13:37	26°♌14'57 5.94028 AU	conjunction	3119 Oct 08 09:51	14°♎39'27 1°02'25	
morning rise	3114 Apr 29 17:33	29°♌11'37	minimum elong	3119 Oct 08 09:50	14°♎39'27 1°02'26	
	3114 May 03 02:05	0°♏	max. Earth dist.	3119 Oct 07 15:47	14°♎29'42 6.45427 AU	
	3114 Jul 13 21:38	15°♏	morning rise	3119 Oct 21 10:09	17°♎27'37	
retrograde	3114 Sep 09 05:19	19°♏55'49		3119 Dec 26 20:25	0°♎	
	3114 Nov 06 22:58	15°♏♌	retrograde	3120 Feb 18 15:03	4°♎11'29	
opposition	3114 Nov 07 21:14	14°♏52'28 -1°-25'-56		3120 Apr 13 16:36	30°♏♎	
min. Earth dist.	3114 Nov 06 17:16	15°♏01'56 3.95122 AU	opposition	3120 Apr 19 04:38	29°♎17'36 1°30'28	
direct	3115 Jan 04 17:40	9°♏57'46	min. Earth dist.	3120 Apr 20 00:43	29°♎11'07 4.46361 AU	
	3115 Mar 02 06:01	15°♏	direct	3120 Jun 20 18:44	24°♎15'14	
evening set	3115 May 10 18:18	29°♏40'03		3120 Aug 25 13:31	0°♎	
	3115 May 12 03:52	0°♐	evening set	3120 Oct 25 01:47	11°♎42'21	
			max. Earth dist.	3120 Nov 05 08:06	14°♎08'32 6.45223 AU	
conjunction	3115 May 24 07:54	2°♐54'14 0°-46'-47				
minimum elong	3115 May 24 07:56	2°♐54'16 0°46'49	conjunction	3120 Nov 06 22:53	14°♎29'36 0°58'13	
max. Earth dist.	3115 May 26 11:57	3°♐25'19 5.98386 AU	minimum elong	3120 Nov 06 22:54	14°♎29'36 0°58'13	
morning rise	3115 Jun 07 00:22	6°♐09'41		3120 Nov 09 06:53	15°♎	
retrograde	3115 Oct 15 20:40	26°♐21'08	morning rise	3120 Nov 19 17:15	17°♎15'40	
min. Earth dist.	3115 Dec 12 22:00	21°♐28'34 4.03739 AU		3121 Jan 26 00:34	0°♏	
opposition	3115 Dec 14 10:30	21°♐16'07 0°-47'-19	retrograde	3121 Mar 20 03:29	4°♏05'07	
direct	3116 Feb 10 15:39	16°♐18'39		3121 May 13 19:23	30°♏♎	
	3116 May 22 13:08	0°♑	opposition	3121 May 19 23:36	29°♎12'56 1°12'51	
evening set	3116 Jun 16 00:19	5°♑30'48	min. Earth dist.	3121 May 21 08:25	29°♎02'28 4.42377 AU	
			direct	3121 Jul 21 16:24	24°♎11'49	
conjunction	3116 Jun 29 18:08	8°♑41'19 0°-14'-15		3121 Sep 25 10:54	0°♏	
minimum elong	3116 Jun 29 18:09	8°♑41'19 0°14'16	evening set	3121 Nov 24 14:56	11°♏51'14	
behind sun begin	3116 Jun 29 14:27	8°♑39'11	max. Earth dist.	3121 Dec 05 04:55	14°♏11'26 6.37697 AU	
behind sun end	3116 Jun 29 21:51	8°♑43'27				
max. Earth dist.	3116 Jul 02 01:34	9°♑13'23 6.10430 AU	conjunction	3121 Dec 07 08:19	14°♏39'56 0°38'11	
morning rise	3116 Jul 13 12:57	11°♑52'04	minimum elong	3121 Dec 07 08:21	14°♏39'57 0°38'12	

morning rise	3121 Dec 20 00:02	17°♏27'58		retrograde	3127 Oct 20 19:04	1°♎24'01	
	3122 Feb 21 23:08	0°♎			3127 Nov 18 23:49	30°♏II	
retrograde	3122 Apr 21 05:50	4°♎51'23		min. Earth dist.	3127 Dec 17 20:38	26°♏31'07	4.05579 AU
opposition	3122 Jun 21 02:44	29°♏59'18	0°34'30	opposition	3127 Dec 19 08:05	26°♏19'02	0°-40'-13
	3122 Jun 21 00:32	30°♏♏		direct	3128 Feb 15 16:36	21°♏21'11	
min. Earth dist.	3122 Jun 22 16:36	29°♏47'13	4.31700 AU		3128 May 03 11:13	0°♎	
direct	3122 Aug 22 07:13	25°♏00'04		evening set	3128 Jun 21 01:20	10°♎27'38	
	3122 Oct 20 22:57	0°♎					
evening set	3122 Dec 25 20:41	13°♎08'21		conjunction	3128 Jul 04 19:10	13°♎37'15	0°-9'-8
max. Earth dist.	3123 Jan 05 12:36	15°♎34'01	6.24700 AU	minimum elong	3128 Jul 04 19:11	13°♎37'16	0°09'09
				behind sun begin	3128 Jul 04 12:08	13°♎33'13	
conjunction	3123 Jan 07 13:19	16°♎01'51	0°06'35	behind sun end	3128 Jul 05 02:14	13°♎41'18	
minimum elong	3123 Jan 07 13:19	16°♎01'51	0°06'35	max. Earth dist.	3128 Jul 07 01:15	14°♎08'22	6.12470 AU
behind sun begin	3123 Jan 07 05:50	15°♎57'36		morning rise	3128 Jul 18 13:53	16°♎47'00	
behind sun end	3123 Jan 07 20:49	16°♎06'06			3128 Sep 21 04:57	0°♏	
morning rise	3123 Jan 20 05:14	18°♎55'17		asc. node	3128 Oct 11 11:26	2°♏56'54	
	3123 Mar 14 01:57	0°♏		retrograde	3128 Nov 22 15:35	5°♏42'30	
desc. node	3123 Mar 21 18:43	1°♏20'29		min. Earth dist.	3129 Jan 20 03:06	0°♏49'08	4.19876 AU
retrograde	3123 May 25 11:09	7°♏17'07		opposition	3129 Jan 21 08:46	0°♏39'05	0°13'44
opposition	3123 Jul 25 06:01	2°♏23'36	0°-16'-41		3129 Jan 26 04:47	30°♏♎	
min. Earth dist.	3123 Jul 26 11:52	2°♏14'00	4.17185 AU	direct	3129 Mar 21 19:30	25°♎38'30	
	3123 Aug 13 16:24	30°♏♎			3129 May 15 03:17	0°♏	
direct	3123 Sep 24 05:40	27°♎26'52		evening set	3129 Jul 26 11:28	14°♏04'45	
	3123 Nov 04 03:49	0°♏			3129 Jul 30 15:07	15°♏	
	3124 Jan 22 07:33	15°♏					
evening set	3124 Jan 27 15:55	16°♏14'48		conjunction	3129 Aug 09 02:49	17°♏06'46	0°26'27
max. Earth dist.	3124 Feb 08 02:55	18°♏56'38	6.09903 AU	minimum elong	3129 Aug 09 02:48	17°♏06'46	0°26'28
				max. Earth dist.	3129 Aug 10 12:49	17°♏25'43	6.27275 AU
conjunction	3124 Feb 09 10:19	19°♏15'10	0°-28'-36	morning rise	3129 Aug 22 17:16	20°♏08'03	
minimum elong	3124 Feb 09 10:17	19°♏15'09	0°28'37		3129 Oct 09 13:03	0°♏	
morning rise	3124 Feb 22 05:42	22°♏16'19		retrograde	3129 Dec 24 10:34	7°♏57'21	
	3124 Mar 27 11:15	0°♏		opposition	3130 Feb 22 09:09	2°♏57'16	0°59'51
retrograde	3124 Jun 30 03:52	11°♏48'36		min. Earth dist.	3130 Feb 21 19:41	3°♏01'45	4.33893 AU
opposition	3124 Aug 29 13:14	6°♏52'08	-1°-5'-44		3130 Mar 18 05:08	30°♏♏	
min. Earth dist.	3124 Aug 30 01:18	6°♏48'12	4.03312 AU	direct	3130 Apr 24 05:17	27°♏54'59	
direct	3124 Oct 28 02:57	1°♏57'37			3130 May 31 15:16	0°♏	
evening set	3125 Mar 02 13:15	21°♏24'07		evening set	3130 Aug 28 21:38	15°♏46'57	
conjunction	3125 Mar 15 12:46	24°♏31'49	0°-55'-9	conjunction	3130 Sep 11 06:51	18°♏41'21	0°52'23
minimum elong	3125 Mar 15 12:44	24°♏31'48	0°55'09	minimum elong	3130 Sep 11 06:49	18°♏41'19	0°52'23
max. Earth dist.	3125 Mar 15 12:15	24°♏31'30	5.98230 AU	max. Earth dist.	3130 Sep 11 13:38	18°♏45'02	6.39428 AU
morning rise	3125 Mar 28 14:29	27°♏40'55		morning rise	3130 Sep 24 13:45	21°♏34'28	
	3125 Apr 07 08:00	0°♏			3130 Nov 04 18:55	0°♎	
retrograde	3125 Aug 07 08:22	18°♏09'38		retrograde	3131 Jan 23 18:53	8°♎37'26	
opposition	3125 Oct 06 07:26	13°♏09'22	-1°-32'-19	opposition	3131 Mar 25 02:28	3°♎40'59	1°26'30
min. Earth dist.	3125 Oct 05 20:05	13°♏13'09	3.95151 AU	min. Earth dist.	3131 Mar 25 06:49	3°♎39'34	4.43436 AU
direct	3125 Dec 03 14:46	8°♏15'44			3131 Apr 25 22:04	30°♏♏	
evening set	3126 Apr 08 08:14	28°♏02'47		direct	3131 May 26 01:11	28°♏38'14	
	3126 Apr 16 10:11	0°♏			3131 Jun 25 13:29	0°♎	
				evening set	3131 Sep 29 15:28	16°♎09'55	
conjunction	3126 Apr 21 15:09	1°♏15'45	-1°-1'-10				
minimum elong	3126 Apr 21 15:10	1°♏15'46	1°01'11	conjunction	3131 Oct 12 17:33	18°♎58'58	1°02'50
max. Earth dist.	3126 Apr 22 22:52	1°♏34'59	5.94306 AU	minimum elong	3131 Oct 12 17:33	18°♎58'58	1°02'50
morning rise	3126 May 05 01:18	4°♏30'24		max. Earth dist.	3131 Oct 11 20:48	18°♎47'46	6.45635 AU
	3126 Jun 20 09:32	15°♏		morning rise	3131 Oct 25 16:50	21°♎46'41	
retrograde	3126 Sep 14 09:34	25°♏12'05			3131 Dec 05 04:10	0°♏	
min. Earth dist.	3126 Nov 11 19:26	20°♏18'39	3.96039 AU	retrograde	3132 Feb 22 20:40	8°♏30'18	
opposition	3126 Nov 13 01:47	20°♏08'21	-1°-22'-13	opposition	3132 Apr 23 11:20	3°♏36'46	1°29'22
direct	3127 Jan 09 22:27	15°♏13'19		min. Earth dist.	3132 Apr 24 09:37	3°♏29'37	4.46062 AU
	3127 Apr 25 01:32	0°♏			3132 May 24 23:03	30°♏♎	
evening set	3127 May 15 23:31	4°♏15'57		direct	3132 Jun 25 03:01	28°♎34'35	
					3132 Jul 26 12:04	0°♏	
conjunction	3127 May 29 14:06	8°♏05'53	0°-43'00		3132 Oct 24 11:51	15°♏	
minimum elong	3127 May 29 14:08	8°♏05'54	0°43'01	evening set	3132 Oct 29 09:04	16°♏02'58	
max. Earth dist.	3127 May 31 20:19	8°♏38'07	5.99857 AU	max. Earth dist.	3132 Nov 09 11:18	18°♏27'20	6.44437 AU
morning rise	3127 Jun 12 07:03	11°♏20'53					
	3127 Sep 21 06:57	0°♎		conjunction	3132 Nov 11 05:26	18°♏50'15	0°56'16

minimum elong	3132 Nov 11 05:27	18° \mathbb{M} 50'16	0°56'16		3138 Sep 06 15:49	0° \mathbb{I}	
morning rise	3132 Nov 23 23:25	21° \mathbb{M} 36'27		retrograde	3138 Sep 19 11:09	0° \mathbb{I} 16'13	
	3133 Jan 03 23:22	0° \mathbb{J}			3138 Oct 02 03:34	30° \mathbb{R} 8	
retrograde	3133 Mar 24 14:05	8° \mathbb{J} 29'23		min. Earth dist.	3138 Nov 16 19:19	25° \mathbb{J} 22'34	3.97018 AU
opposition	3133 May 24 10:10	3° \mathbb{J} 37'17	1°08'33	opposition	3138 Nov 18 01:49	25° \mathbb{J} 12'13	-1°-18'-2
min. Earth dist.	3133 May 25 20:08	3° \mathbb{J} 26'27	4.41177 AU	direct	3139 Jan 14 23:41	20° \mathbb{J} 16'52	
	3133 Jun 25 06:28	30° \mathbb{R} \mathbb{M}			3139 Apr 06 21:42	0° \mathbb{I}	
direct	3133 Jul 26 02:36	28° \mathbb{M} 36'24		evening set	3139 May 21 00:41	9° \mathbb{I} 51'59	
	3133 Aug 26 00:16	0° \mathbb{J}					
evening set	3133 Nov 28 23:20	16° \mathbb{J} 19'01		conjunction	3139 Jun 03 15:56	13° \mathbb{I} 05'36	0°-39'-3
max. Earth dist.	3133 Dec 09 14:27	18° \mathbb{J} 40'19	6.36196 AU	minimum elong	3139 Jun 03 15:59	13° \mathbb{I} 05'38	0°39'04
				max. Earth dist.	3139 Jun 05 22:42	13° \mathbb{I} 38'02	6.01222 AU
conjunction	3133 Dec 11 16:37	19° \mathbb{J} 08'13	0°34'17	morning rise	3139 Jun 17 09:35	16° \mathbb{I} 20'14	
minimum elong	3133 Dec 11 16:39	19° \mathbb{J} 08'14	0°34'17		3139 Aug 21 02:09	0° \mathbb{J}	
morning rise	3133 Dec 24 08:02	21° \mathbb{J} 56'47		retrograde	3139 Oct 25 11:26	6° \mathbb{J} 15'39	
	3134 Jan 31 13:24	0° \mathbb{J}		min. Earth dist.	3139 Dec 22 13:31	1° \mathbb{J} 22'59	4.07190 AU
retrograde	3134 Apr 25 20:58	9° \mathbb{J} 26'41		opposition	3139 Dec 24 01:14	1° \mathbb{J} 10'49	0°-33'-10
opposition	3134 Jun 25 19:10	4° \mathbb{J} 34'29	0°27'48		3140 Jan 01 19:27	30° \mathbb{R} \mathbb{I}	
min. Earth dist.	3134 Jun 27 07:38	4° \mathbb{J} 22'51	4.30009 AU	direct	3140 Feb 20 11:13	26° \mathbb{I} 12'36	
	3134 Aug 10 13:25	30° \mathbb{R} \mathbb{J}			3140 Apr 09 20:33	0° \mathbb{J}	
direct	3134 Aug 26 20:09	29° \mathbb{J} 35'39		evening set	3140 Jun 25 22:52	15° \mathbb{J} 14'39	
	3134 Sep 12 03:34	0° \mathbb{J}					
evening set	3134 Dec 30 08:51	17° \mathbb{J} 48'05		conjunction	3140 Jul 09 16:42	18° \mathbb{J} 23'30	0°-4'-10
max. Earth dist.	3135 Jan 10 02:21	20° \mathbb{J} 15'17	6.22960 AU	minimum elong	3140 Jul 09 16:43	18° \mathbb{J} 23'30	0°04'12
				behind sun begin	3140 Jul 09 08:28	18° \mathbb{J} 18'48	
conjunction	3135 Jan 12 01:23	20° \mathbb{J} 42'16	0°01'38	behind sun end	3140 Jul 10 00:57	18° \mathbb{J} 28'13	
minimum elong	3135 Jan 12 01:22	20° \mathbb{J} 42'15	0°01'38	max. Earth dist.	3140 Jul 11 19:26	18° \mathbb{J} 52'35	6.14198 AU
behind sun begin	3135 Jan 11 17:23	20° \mathbb{J} 37'42		morning rise	3140 Jul 23 11:15	21° \mathbb{J} 32'23	
behind sun end	3135 Jan 12 09:21	20° \mathbb{J} 46'49		asc. node	3140 Aug 23 09:28	28° \mathbb{J} 19'49	
morning rise	3135 Jan 24 17:36	23° \mathbb{J} 36'32			3140 Aug 31 13:04	0° \mathbb{J}	
desc. node	3135 Jan 29 19:30	24° \mathbb{J} 45'49		retrograde	3140 Nov 27 03:17	10° \mathbb{J} 19'39	
	3135 Feb 22 14:53	0° \mathbb{J}		opposition	3141 Jan 25 19:56	5° \mathbb{J} 16'39	0°20'45
retrograde	3135 May 30 11:10	12° \mathbb{J} 06'34		min. Earth dist.	3141 Jan 24 17:02	5° \mathbb{J} 25'45	4.21554 AU
opposition	3135 Jul 30 04:56	7° \mathbb{J} 12'39	0°-24'-2	direct	3141 Mar 26 11:35	0° \mathbb{J} 15'48	
min. Earth dist.	3135 Jul 31 08:56	7° \mathbb{J} 03'38	4.15518 AU		3141 Jul 14 10:52	15° \mathbb{J}	
direct	3135 Sep 29 01:31	2° \mathbb{J} 16'14		evening set	3141 Jul 31 03:37	18° \mathbb{J} 38'11	
	3136 Jan 05 10:58	15° \mathbb{J}					
evening set	3136 Feb 01 09:14	21° \mathbb{J} 08'11		conjunction	3141 Aug 13 18:30	21° \mathbb{J} 39'21	0°30'42
max. Earth dist.	3136 Feb 13 01:09	23° \mathbb{J} 53'22	6.08466 AU	minimum elong	3141 Aug 13 18:28	21° \mathbb{J} 39'20	0°30'42
				max. Earth dist.	3141 Aug 15 02:12	21° \mathbb{J} 56'57	6.28788 AU
conjunction	3136 Feb 14 04:10	24° \mathbb{J} 09'22	0°-33'-3	morning rise	3141 Aug 27 08:03	24° \mathbb{J} 39'37	
minimum elong	3136 Feb 14 04:09	24° \mathbb{J} 09'21	0°33'05		3141 Sep 21 05:02	0° \mathbb{J}	
morning rise	3136 Feb 27 00:05	27° \mathbb{J} 11'22		retrograde	3141 Dec 28 15:49	12° \mathbb{J} 22'41	
	3136 Mar 10 01:23	0° \mathbb{J}		opposition	3142 Feb 26 16:02	7° \mathbb{J} 23'09	1°04'45
retrograde	3136 Jul 05 08:05	16° \mathbb{J} 50'50		min. Earth dist.	3142 Feb 26 03:54	7° \mathbb{J} 27'10	4.35152 AU
opposition	3136 Sep 03 16:33	11° \mathbb{J} 53'53	-1°-11'-5	direct	3142 Apr 28 14:50	2° \mathbb{J} 20'48	
min. Earth dist.	3136 Sep 04 01:26	11° \mathbb{J} 50'58	4.02261 AU	evening set	3142 Sep 02 09:07	20° \mathbb{J} 10'23	
direct	3136 Nov 02 01:29	6° \mathbb{J} 59'36					
evening set	3137 Mar 07 11:53	26° \mathbb{J} 28'18		conjunction	3142 Sep 15 17:18	23° \mathbb{J} 04'00	0°54'45
				minimum elong	3142 Sep 15 17:16	23° \mathbb{J} 03'59	0°54'45
conjunction	3137 Mar 20 12:02	29° \mathbb{J} 36'36	0°-57'-20	max. Earth dist.	3142 Sep 15 19:40	23° \mathbb{J} 05'18	6.40351 AU
minimum elong	3137 Mar 20 12:00	29° \mathbb{J} 36'35	0°57'21	morning rise	3142 Sep 28 23:14	25° \mathbb{J} 56'21	
max. Earth dist.	3137 Mar 20 14:41	29° \mathbb{J} 38'12	5.97639 AU		3142 Oct 18 03:05	0° \mathbb{J}	
	3137 Mar 22 02:44	0° \mathbb{J}		retrograde	3143 Jan 28 00:30	12° \mathbb{J} 56'02	
morning rise	3137 Apr 02 14:50	2° \mathbb{J} 46'25		opposition	3143 Mar 29 07:53	8° \mathbb{J} 00'06	1°28'16
retrograde	3137 Aug 12 12:01	23° \mathbb{J} 18'04		min. Earth dist.	3143 Mar 29 15:21	7° \mathbb{J} 57'40	4.43983 AU
opposition	3137 Oct 11 11:23	18° \mathbb{J} 17'13	-1°-33'-7	direct	3143 May 30 10:25	2° \mathbb{J} 57'24	
min. Earth dist.	3137 Oct 10 20:54	18° \mathbb{J} 22'04	3.95099 AU	evening set	3143 Oct 03 23:15	20° \mathbb{J} 28'18	
direct	3137 Dec 08 16:33	13° \mathbb{J} 23'28		max. Earth dist.	3143 Oct 16 00:46	23° \mathbb{J} 04'10	6.45757 AU
	3138 Mar 31 03:07	0° \mathbb{J}					
evening set	3138 Apr 13 09:40	3° \mathbb{J} 09'42		conjunction	3143 Oct 17 00:31	23° \mathbb{J} 16'59	1°02'52
				minimum elong	3143 Oct 17 00:31	23° \mathbb{J} 16'59	1°02'52
conjunction	3138 Apr 26 17:46	6° \mathbb{J} 22'57	-1°00'-1	morning rise	3143 Oct 29 22:59	26° \mathbb{J} 04'21	
minimum elong	3138 Apr 26 17:48	6° \mathbb{J} 22'58	1°00'01		3143 Nov 17 13:53	0° \mathbb{M}	
max. Earth dist.	3138 Apr 28 06:03	6° \mathbb{J} 44'54	5.94798 AU	retrograde	3144 Feb 27 01:32	12° \mathbb{M} 47'55	
morning rise	3138 May 10 04:47	9° \mathbb{J} 37'47		opposition	3144 Apr 27 17:44	7° \mathbb{M} 54'37	1°27'46
	3138 Jun 02 01:42	15° \mathbb{J}		min. Earth dist.	3144 Apr 28 17:08	7° \mathbb{M} 47'06	4.45766 AU

direct	3144 Jun 29 09:49	2°♄52'34		minimum elong	3150 May 01 23:41	11°♄38'04	0°58'23
	3144 Oct 08 02:07	15°♄		max. Earth dist.	3150 May 03 14:47	12°♄01'40	5.94959 AU
evening set	3144 Nov 02 15:09	20°♄21'52		morning rise	3150 May 15 11:58	14°♄53'20	
max. Earth dist.	3144 Nov 13 16:40	22°♄46'07	6.43733 AU		3150 May 15 23:05	15°♄	
					3150 Jul 25 20:56	0°♄	
conjunction	3144 Nov 15 11:00	23°♄09'12	0°54'00	retrograde	3150 Sep 24 13:51	5°♄29'15	
minimum elong	3144 Nov 15 11:01	23°♄09'13	0°54'01	min. Earth dist.	3150 Nov 21 19:42	0°♄36'06	3.97782 AU
morning rise	3144 Nov 28 04:20	25°♄55'28		opposition	3150 Nov 23 04:29	0°♄24'58	-1°-13'-8
	3144 Dec 17 07:29	0°♄			3150 Nov 26 06:03	30°♄	
retrograde	3145 Mar 28 22:50	12°♄51'38		direct	3151 Jan 20 01:24	25°♄29'16	
opposition	3145 May 28 20:00	7°♄59'36	1°03'52		3151 Mar 14 12:36	0°♄	
min. Earth dist.	3145 May 30 06:52	7°♄48'31	4.40073 AU	evening set	3151 May 26 05:53	15°♄01'44	
direct	3145 Jul 30 11:53	2°♄58'59					
evening set	3145 Dec 03 06:32	20°♄44'20		conjunction	3151 Jun 08 21:51	18°♄15'05	0°-34'-40
max. Earth dist.	3145 Dec 13 19:39	23°♄05'06	6.34747 AU	minimum elong	3151 Jun 08 21:53	18°♄15'06	0°34'40
				max. Earth dist.	3151 Jun 11 04:39	18°♄47'26	6.02516 AU
conjunction	3145 Dec 15 23:24	23°♄33'59	0°30'11	morning rise	3151 Jun 22 16:04	21°♄29'20	
minimum elong	3145 Dec 15 23:25	23°♄33'59	0°30'11		3151 Jul 30 17:44	0°♄	
morning rise	3145 Dec 28 14:52	26°♄23'07		retrograde	3151 Oct 30 08:24	11°♄16'57	
	3146 Jan 14 03:11	0°♄		min. Earth dist.	3151 Dec 27 11:14	6°♄24'02	4.08863 AU
retrograde	3146 Apr 30 12:33	13°♄59'32		opposition	3151 Dec 28 21:59	6°♄12'12	0°-25'-37
opposition	3146 Jun 30 10:25	9°♄07'09	0°20'57	direct	3152 Feb 25 12:16	1°♄13'34	
min. Earth dist.	3146 Jul 01 22:29	8°♄55'38	4.28268 AU	evening set	3152 Jul 01 00:04	20°♄10'43	
direct	3146 Aug 31 08:45	4°♄08'33		asc. node	3152 Jul 03 01:23	20°♄38'44	
desc. node	3146 Dec 10 00:15	16°♄54'59					
evening set	3147 Jan 03 19:45	22°♄25'35		conjunction	3152 Jul 14 17:57	23°♄18'41	0°01'07
max. Earth dist.	3147 Jan 14 16:06	24°♄55'00	6.21069 AU	minimum elong	3152 Jul 14 17:57	23°♄18'42	0°01'07
				behind sun begin	3152 Jul 14 09:35	23°♄13'56	
conjunction	3147 Jan 16 12:33	25°♄20'36	0°-3'-25	behind sun end	3152 Jul 15 02:20	23°♄23'27	
minimum elong	3147 Jan 16 12:33	25°♄20'35	0°03'25	max. Earth dist.	3152 Jul 16 20:44	23°♄47'40	6.16141 AU
behind sun begin	3147 Jan 16 04:37	25°♄16'03		morning rise	3152 Jul 28 12:01	26°♄26'29	
behind sun end	3147 Jan 16 20:28	25°♄25'08			3152 Aug 13 10:59	0°♄	
morning rise	3147 Jan 29 04:57	28°♄15'45			3152 Nov 25 03:06	15°♄	
	3147 Feb 05 19:56	0°♄		retrograde	3152 Dec 01 16:06	15°♄04'13	
	3147 Apr 29 23:33	15°♄			3152 Dec 08 04:46	15°♄	
retrograde	3147 Jun 04 09:59	16°♄54'43		min. Earth dist.	3153 Jan 29 07:27	10°♄10'31	4.23611 AU
	3147 Jul 10 01:36	15°♄		opposition	3153 Jan 30 09:44	10°♄01'40	0°27'52
opposition	3147 Aug 04 02:50	12°♄00'30	0°-31'-16	direct	3153 Mar 31 05:05	5°♄00'34	
min. Earth dist.	3147 Aug 05 04:58	11°♄52'04	4.13609 AU		3153 Jun 26 10:08	15°♄	
direct	3147 Oct 03 18:17	7°♄04'24		evening set	3153 Aug 04 22:33	23°♄17'29	
	3147 Dec 17 11:58	15°♄					
evening set	3148 Feb 06 02:23	26°♄01'37		conjunction	3153 Aug 18 12:27	26°♄17'25	0°34'53
				minimum elong	3153 Aug 18 12:25	26°♄17'24	0°34'52
conjunction	3148 Feb 18 21:41	29°♄03'46	0°-37'-19	max. Earth dist.	3153 Aug 19 15:43	26°♄32'29	6.30814 AU
minimum elong	3148 Feb 18 21:40	29°♄03'45	0°37'20	morning rise	3153 Sep 01 01:08	29°♄16'25	
max. Earth dist.	3148 Feb 17 20:48	28°♄48'58	6.06693 AU		3153 Sep 04 08:48	0°♄	
	3148 Feb 22 20:19	0°♄		retrograde	3154 Jan 01 23:37	16°♄51'11	
morning rise	3148 Mar 02 18:31	2°♄06'54		opposition	3154 Mar 03 00:18	11°♄52'07	1°09'21
retrograde	3148 Jul 10 12:10	21°♄55'13		min. Earth dist.	3154 Mar 02 15:09	11°♄55'08	4.37011 AU
opposition	3148 Sep 08 20:13	16°♄57'42	-1°-16'-1	direct	3154 May 03 04:33	6°♄49'36	
min. Earth dist.	3148 Sep 09 01:47	16°♄55'52	4.00790 AU	evening set	3154 Sep 06 20:44	24°♄34'25	
direct	3148 Nov 07 00:35	12°♄03'32					
	3149 Mar 05 18:46	0°♄		conjunction	3154 Sep 20 04:01	27°♄27'01	0°56'52
evening set	3149 Mar 12 11:46	1°♄36'21		minimum elong	3154 Sep 20 03:59	27°♄27'01	0°56'52
				max. Earth dist.	3154 Sep 20 04:13	27°♄27'08	6.41905 AU
conjunction	3149 Mar 25 13:03	4°♄45'35	0°-59'-9		3154 Oct 01 22:43	0°♄	
minimum elong	3149 Mar 25 13:02	4°♄45'34	0°59'10	morning rise	3154 Oct 03 08:39	0°♄18'16	
max. Earth dist.	3149 Mar 25 21:23	4°♄50'38	5.96618 AU	retrograde	3155 Feb 01 02:33	17°♄12'34	
morning rise	3149 Apr 07 16:47	7°♄56'19		opposition	3155 Apr 02 12:42	12°♄17'00	1°29'34
retrograde	3149 Aug 17 20:37	28°♄32'27		min. Earth dist.	3155 Apr 02 21:31	12°♄14'08	4.45143 AU
opposition	3149 Oct 16 17:05	23°♄31'08	-1°-33'-16	direct	3155 Jun 03 17:29	7°♄14'19	
min. Earth dist.	3149 Oct 16 00:52	23°♄36'34	3.94656 AU	evening set	3155 Oct 08 05:19	24°♄42'15	
direct	3149 Dec 13 20:45	18°♄37'15		max. Earth dist.	3155 Oct 20 02:23	27°♄15'38	6.46426 AU
	3150 Mar 13 04:18	0°♄					
evening set	3150 Apr 18 14:30	8°♄24'21		conjunction	3155 Oct 21 05:31	27°♄30'17	1°02'36
				minimum elong	3155 Oct 21 05:31	27°♄30'17	1°02'35
conjunction	3150 May 01 23:40	11°♄38'03	0°-58'-22		3155 Nov 01 19:21	0°♄	

morning rise	3155 Nov 03 03:05	0°♄17'01			3161 Oct 13 02:58	30°♄	
	3156 Jan 25 23:04	15°♄		min. Earth dist.	3161 Oct 21 03:56	28°♄55'47	3.93913 AU
retrograde	3156 Mar 02 05:07	16°♄58'58		opposition	3161 Oct 22 00:07	28°♄48'59	-1°-32'-38
	3156 Apr 07 14:32	15°♄		direct	3161 Dec 18 23:44	23°♄55'02	
opposition	3156 May 01 22:02	12°♄05'56	1°25'43		3162 Feb 19 13:18	0°♄	
min. Earth dist.	3156 May 03 00:23	11°♄57'30	4.45893 AU	evening set	3162 Apr 23 21:40	13°♄44'13	
direct	3156 Jul 03 16:41	7°♄03'58			3162 Apr 29 03:41	15°♄	
	3156 Sep 20 08:06	15°♄					
evening set	3156 Nov 06 18:21	24°♄32'55		conjunction	3162 May 07 08:05	16°♄58'31	0°-56'-12
max. Earth dist.	3156 Nov 17 15:53	26°♄55'13	6.43284 AU	minimum elong	3162 May 07 08:07	16°♄58'32	0°56'14
				max. Earth dist.	3162 May 09 03:04	17°♄24'27	5.94979 AU
conjunction	3156 Nov 19 13:35	27°♄20'10	0°51'32	morning rise	3162 May 20 21:33	20°♄14'19	
minimum elong	3156 Nov 19 13:37	27°♄20'11	0°51'32		3162 Jul 02 22:20	0°♄	
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morning rise	3156 Dec 02 06:30	0°♄06'26		min. Earth dist.	3162 Nov 26 23:29	5°♄54'55	3.98542 AU
retrograde	3157 Apr 02 04:29	17°♄05'17		opposition	3162 Nov 28 09:21	5°♄43'23	-1°-7'-33
opposition	3157 Jun 02 02:40	12°♄13'15	0°58'58	direct	3163 Jan 25 07:45	0°♄47'19	
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direct	3157 Aug 03 16:53	7°♄12'45					
evening set	3157 Dec 07 10:22	25°♄00'51		conjunction	3163 Jun 14 06:16	23°♄29'56	0°-29'-56
max. Earth dist.	3157 Dec 17 23:47	27°♄22'14	6.33238 AU	minimum elong	3163 Jun 14 06:18	23°♄29'58	0°29'57
				max. Earth dist.	3163 Jun 16 16:06	24°♄03'56	6.03945 AU
conjunction	3157 Dec 20 03:10	27°♄51'01	0°26'04	morning rise	3163 Jun 28 00:48	26°♄43'40	
minimum elong	3157 Dec 20 03:11	27°♄51'02	0°26'04		3163 Jul 12 06:00	0°♄	
	3157 Dec 29 17:27	0°♄		retrograde	3163 Nov 04 06:44	16°♄22'25	
morning rise	3158 Jan 01 18:26	0°♄40'43		min. Earth dist.	3164 Jan 01 09:03	11°♄29'41	4.10768 AU
retrograde	3158 May 05 01:37	18°♄24'12		opposition	3164 Jan 02 20:00	11°♄17'48	0°-17'-47
opposition	3158 Jul 04 22:49	13°♄31'43	0°14'10	direct	3164 Mar 01 13:28	6°♄18'46	
min. Earth dist.	3158 Jul 06 11:22	13°♄20'02	4.26329 AU	asc. node	3164 May 11 15:06	13°♄34'39	
direct	3158 Sep 04 17:51	8°♄33'24		evening set	3164 Jul 06 02:48	25°♄10'05	
desc. node	3158 Oct 21 21:23	11°♄49'18					
evening set	3159 Jan 08 04:11	26°♄56'00		conjunction	3164 Jul 19 20:15	28°♄16'55	0°06'23
max. Earth dist.	3159 Jan 19 00:11	29°♄26'01	6.18844 AU	minimum elong	3164 Jul 19 20:15	28°♄16'55	0°06'24
				behind sun begin	3164 Jul 19 12:24	28°♄12'29	
conjunction	3159 Jan 20 21:03	29°♄51'59	0°-8'-11	behind sun end	3164 Jul 20 04:06	28°♄21'21	
minimum elong	3159 Jan 20 21:03	29°♄51'59	0°08'12	max. Earth dist.	3164 Jul 21 19:55	28°♄43'59	6.18321 AU
behind sun begin	3159 Jan 20 13:57	29°♄47'54			3164 Jul 27 09:59	0°♄	
behind sun end	3159 Jan 21 04:10	29°♄56'05		morning rise	3164 Aug 02 13:58	1°♄23'31	
	3159 Jan 21 10:56	0°♄			3164 Oct 09 22:56	15°♄	
morning rise	3159 Feb 02 14:05	2°♄48'18		retrograde	3164 Dec 06 05:33	19°♄50'59	
	3159 Apr 01 18:36	15°♄			3165 Feb 02 14:54	15°♄	
retrograde	3159 Jun 09 07:36	21°♄37'53		min. Earth dist.	3165 Feb 03 00:07	14°♄56'54	4.25823 AU
opposition	3159 Aug 08 22:56	16°♄43'16	0°-38'-11	opposition	3165 Feb 04 00:17	14°♄48'46	0°34'50
min. Earth dist.	3159 Aug 09 22:55	16°♄35'30	4.11255 AU	direct	3165 Apr 05 00:44	9°♄47'20	
	3159 Aug 22 13:07	15°♄			3165 Jun 04 11:23	15°♄	
direct	3159 Oct 08 08:52	11°♄47'26		evening set	3165 Aug 09 17:26	27°♄58'18	
	3159 Nov 23 01:38	15°♄			3165 Aug 18 23:07	0°♄	
	3160 Feb 07 02:35	0°♄					
evening set	3160 Feb 10 18:38	0°♄52'00		conjunction	3165 Aug 23 06:37	0°♄57'01	0°38'53
				minimum elong	3165 Aug 23 06:35	0°♄57'00	0°38'53
conjunction	3160 Feb 23 14:49	3°♄55'28	0°-41'-16	max. Earth dist.	3165 Aug 24 07:38	1°♄10'48	6.32871 AU
minimum elong	3160 Feb 23 14:47	3°♄55'27	0°41'16	morning rise	3165 Sep 05 18:02	3°♄54'40	
max. Earth dist.	3160 Feb 22 18:26	3°♄43'18	6.04433 AU	retrograde	3166 Jan 06 06:52	21°♄21'28	
morning rise	3160 Mar 07 12:23	6°♄59'58		opposition	3166 Mar 07 09:12	16°♄22'55	1°13'37
retrograde	3160 Jul 15 19:02	26°♄59'07		min. Earth dist.	3166 Mar 07 02:03	16°♄25'17	4.38745 AU
opposition	3160 Sep 13 23:44	22°♄01'11	-1°-20'-23	direct	3166 May 07 17:04	11°♄20'20	
min. Earth dist.	3160 Sep 14 03:18	22°♄00'01	3.98852 AU	evening set	3166 Sep 11 08:58	29°♄01'02	
direct	3160 Nov 11 23:31	17°♄07'14			3166 Sep 15 22:34	0°♄	
	3161 Feb 16 14:28	0°♄					
evening set	3161 Mar 17 12:57	6°♄46'15		conjunction	3166 Sep 24 15:00	1°♄52'39	0°58'42
				minimum elong	3166 Sep 24 14:59	1°♄52'38	0°58'41
conjunction	3161 Mar 30 15:17	9°♄56'40	-1°00'-29	max. Earth dist.	3166 Sep 24 09:42	1°♄49'47	6.43170 AU
minimum elong	3161 Mar 30 15:17	9°♄56'40	1°00'30	morning rise	3166 Oct 07 18:40	4°♄42'59	
max. Earth dist.	3161 Mar 31 03:07	10°♄03'51	5.95181 AU	retrograde	3167 Feb 05 08:45	21°♄33'13	
morning rise	3161 Apr 12 20:30	13°♄08'43		opposition	3167 Apr 06 19:09	16°♄38'04	1°30'27
	3161 Jul 03 23:29	0°♄		min. Earth dist.	3167 Apr 07 07:34	16°♄34'03	4.45874 AU
retrograde	3161 Aug 23 05:01	3°♄50'48		direct	3167 Jun 08 03:30	11°♄35'23	





















































































































evening set	3167 Oct 12 12:59	29°♄01'53		conjunction	3173 Apr 04 22:09	15°♃18'09	-1°-1'-24
	3167 Oct 17 01:18	0°♄		minimum elong	3173 Apr 04 22:09	15°♃18'09	1°01'24
max. Earth dist.	3167 Oct 24 06:44	1°♄33'29	6.46562 AU	max. Earth dist.	3173 Apr 05 15:44	15°♃28'50	5.94554 AU
				morning rise	3173 Apr 18 04:26	18°♃30'59	
conjunction	3167 Oct 25 12:30	1°♄49'33	1°02'00		3173 Jun 08 06:37	0°♄	
minimum elong	3167 Oct 25 12:30	1°♄49'33	1°02'00	retrograde	3173 Aug 28 15:18	9°♄15'06	
morning rise	3167 Nov 07 09:07	4°♄35'55		min. Earth dist.	3173 Oct 26 10:49	4°♄20'23	3.94078 AU
	3167 Dec 30 03:23	15°♄		opposition	3173 Oct 27 09:28	4°♄12'44	-1°-31'-14
retrograde	3168 Mar 06 10:43	21°♄18'09			3173 Dec 04 06:44	30°♄	
opposition	3168 May 06 05:24	16°♄25'20	1°23'14	direct	3173 Dec 24 08:27	29°♃18'35	
min. Earth dist.	3168 May 07 08:49	16°♄16'33	4.45441 AU		3174 Jan 13 09:06	0°♄	
	3168 May 17 11:45	15°♄			3174 Apr 11 21:30	15°♄	
direct	3168 Jul 07 23:15	11°♄23'31		evening set	3174 Apr 29 06:17	19°♄06'06	
	3168 Aug 28 01:21	15°♄					
evening set	3168 Nov 11 00:53	28°♄53'53		conjunction	3174 May 12 17:51	22°♄20'27	0°-53'-36
	3168 Nov 16 02:23	0°♄		minimum elong	3174 May 12 17:53	22°♄20'28	0°53'37
max. Earth dist.	3168 Nov 21 20:16	1°♄15'24	6.42272 AU	max. Earth dist.	3174 May 14 17:43	22°♄49'15	5.95921 AU
				morning rise	3174 May 26 08:11	25°♄36'12	
conjunction	3168 Nov 23 19:33	1°♄41'19	0°48'42		3174 Jun 14 02:02	0°♄	
minimum elong	3168 Nov 23 19:35	1°♄41'20	0°48'41	retrograde	3174 Oct 04 23:40	16°♄03'19	
morning rise	3168 Dec 06 12:03	4°♄27'50		min. Earth dist.	3174 Dec 02 01:38	11°♄10'31	4.00154 AU
retrograde	3169 Apr 06 17:14	21°♄31'20		opposition	3174 Dec 03 12:48	10°♄58'33	-1°-1'-30
opposition	3169 Jun 06 14:35	16°♄39'21	0°53'33	direct	3175 Jan 30 12:53	6°♄02'05	
min. Earth dist.	3169 Jun 08 04:01	16°♄27'26	4.37528 AU	evening set	3175 Jun 05 19:14	25°♄25'50	
direct	3169 Aug 08 03:47	11°♄39'06					
evening set	3169 Dec 11 19:21	29°♄31'23		conjunction	3175 Jun 19 12:14	28°♄38'02	0°-25'-5
	3169 Dec 13 22:36	0°♄		minimum elong	3175 Jun 19 12:15	28°♄38'03	0°25'06
max. Earth dist.	3169 Dec 22 07:15	1°♄52'35	6.31301 AU	max. Earth dist.	3175 Jun 21 20:52	29°♄11'08	6.06042 AU
					3175 Jun 25 08:31	0°♄	
conjunction	3169 Dec 24 11:58	2°♄22'14	0°21'34	morning rise	3175 Jul 03 07:06	1°♄50'51	
minimum elong	3169 Dec 24 11:59	2°♄22'15	0°21'35	retrograde	3175 Nov 08 23:46	21°♄18'42	
morning rise	3170 Jan 06 03:24	5°♄12'46		min. Earth dist.	3176 Jan 06 04:35	16°♄25'51	4.13112 AU
retrograde	3170 May 09 20:40	23°♄04'50		opposition	3176 Jan 07 14:44	16°♄14'14	0°-10'-6
opposition	3170 Jul 09 17:37	18°♄12'06	0°06'53	direct	3176 Mar 06 12:28	11°♄14'45	
min. Earth dist.	3170 Jul 11 04:35	18°♄00'54	4.24110 AU	asc. node	3176 Mar 21 13:18	11°♄37'15	
desc. node	3170 Aug 31 04:37	13°♄21'57		evening set	3176 Jul 11 01:27	29°♄59'07	
direct	3170 Sep 09 07:33	13°♄14'05			3176 Jul 11 03:01	0°♄	
	3171 Jan 05 07:14	0°♄					
evening set	3171 Jan 12 18:56	1°♄42'59		conjunction	3176 Jul 24 18:37	3°♄04'44	0°11'24
max. Earth dist.	3171 Jan 23 18:56	4°♄16'02	6.16542 AU	minimum elong	3176 Jul 24 18:36	3°♄04'44	0°11'24
				behind sun begin	3176 Jul 24 12:39	3°♄01'23	
conjunction	3171 Jan 25 12:13	4°♄40'04	0°-13'-12	behind sun end	3176 Jul 25 00:33	3°♄08'05	
minimum elong	3171 Jan 25 12:12	4°♄40'03	0°13'14	max. Earth dist.	3176 Jul 26 16:20	3°♄30'34	6.20717 AU
behind sun begin	3171 Jan 25 07:23	4°♄37'16		morning rise	3176 Aug 07 11:28	6°♄09'56	
behind sun end	3171 Jan 25 17:01	4°♄42'50			3176 Sep 18 03:01	15°♄	
morning rise	3171 Feb 07 05:34	7°♄37'31		retrograde	3176 Dec 10 15:57	24°♄27'05	
	3171 Mar 12 07:27	15°♄		opposition	3177 Feb 08 11:08	19°♄25'23	0°41'19
retrograde	3171 Jun 14 12:49	26°♄37'50		min. Earth dist.	3177 Feb 07 13:29	19°♄32'38	4.28052 AU
opposition	3171 Aug 14 01:59	21°♄42'52	0°-45'-17		3177 Mar 21 06:40	15°♄	
min. Earth dist.	3171 Aug 15 00:20	21°♄35'38	4.09061 AU	direct	3177 Apr 09 16:27	14°♄23'45	
direct	3171 Oct 13 07:24	16°♄47'23			3177 Apr 29 06:51	15°♄	
	3172 Jan 20 21:47	0°♄			3177 Aug 02 20:40	0°♄	
evening set	3172 Feb 15 17:15	5°♄58'18		evening set	3177 Aug 14 08:41	2°♄29'08	
conjunction	3172 Feb 28 14:04	9°♄02'54	0°-45'-8	conjunction	3177 Aug 27 20:49	5°♄26'40	0°42'31
minimum elong	3172 Feb 28 14:02	9°♄02'52	0°45'08	minimum elong	3177 Aug 27 20:47	5°♄26'38	0°42'31
max. Earth dist.	3172 Feb 27 20:57	8°♄52'39	6.02555 AU	max. Earth dist.	3177 Aug 28 16:26	5°♄37'25	6.34743 AU
morning rise	3172 Mar 12 12:42	12°♄08'40		morning rise	3177 Sep 10 07:18	8°♄23'07	
	3172 Jun 12 19:59	0°♄		retrograde	3178 Jan 10 11:27	25°♄43'07	
retrograde	3172 Jul 21 04:36	2°♄16'45		opposition	3178 Mar 11 15:05	20°♄45'04	1°17'20
	3172 Aug 28 18:11	30°♄		min. Earth dist.	3178 Mar 11 11:07	20°♄46'22	4.40158 AU
opposition	3172 Sep 19 08:42	27°♄18'17	-1°-24'-19	direct	3178 May 12 02:45	15°♄42'23	
min. Earth dist.	3172 Sep 19 07:35	27°♄18'39	3.97529 AU		3178 Aug 30 23:25	0°♄	
direct	3172 Nov 17 03:16	22°♄24'29		evening set	3178 Sep 15 18:08	3°♄20'15	
	3173 Jan 27 07:16	0°♄					
evening set	3173 Mar 22 18:43	12°♄06'56		conjunction	3178 Sep 28 23:22	6°♄11'11	1°00'10
				minimum elong	3178 Sep 28 23:21	6°♄11'10	1°00'09

max. Earth dist.	3178 Sep 28 15:06	6°♂06'43	6.44018 AU	direct	3184 Nov 22 09:17	27°♂42'18	
morning rise	3178 Oct 12 01:49	9°♂00'45			3184 Dec 29 18:19	0°♀	
retrograde	3179 Feb 09 12:07	25°♂48'36		evening set	3185 Mar 27 23:53	17°♀26'18	
opposition	3179 Apr 10 23:56	20°♂53'55	1°30'52				
min. Earth dist.	3179 Apr 11 14:24	20°♂49'15	4.46130 AU	conjunction	3185 Apr 10 04:28	20°♀38'06	-1°-1'-48
direct	3179 Jun 12 09:31	15°♂51'23		minimum elong	3185 Apr 10 04:28	20°♀38'06	1°01'49
	3179 Oct 01 04:23	0°♂		max. Earth dist.	3185 Apr 11 03:35	20°♀52'08	5.94400 AU
evening set	3179 Oct 16 19:17	3°♂18'01		morning rise	3185 Apr 23 11:53	23°♀51'30	
max. Earth dist.	3179 Oct 28 07:34	5°♂46'57	6.46196 AU		3185 May 19 15:36	0°♂	
				retrograde	3185 Sep 02 23:12	14°♂35'21	
conjunction	3179 Oct 29 17:52	6°♂05'30	1°01'06	opposition	3185 Nov 01 16:29	9°♂32'33	-1°-29'-3
minimum elong	3179 Oct 29 17:53	6°♂05'31	1°01'06	min. Earth dist.	3185 Oct 31 15:15	9°♂41'04	3.94633 AU
morning rise	3179 Nov 11 13:56	8°♂51'47		direct	3185 Dec 29 13:43	4°♂38'12	
	3179 Dec 11 02:14	15°♂			3186 Mar 24 06:28	15°♂	
retrograde	3180 Mar 10 19:17	25°♂36'10		evening set	3186 May 04 12:49	24°♂22'53	
opposition	3180 May 10 12:53	20°♂43'37	1°20'21				
min. Earth dist.	3180 May 11 19:07	20°♂33'56	4.44488 AU	conjunction	3186 May 18 01:10	27°♂37'06	0°-50'-37
direct	3180 Jul 12 07:24	15°♂41'59		minimum elong	3186 May 18 01:12	27°♂37'07	0°50'37
	3180 Oct 31 03:27	0°♂		max. Earth dist.	3186 May 20 02:05	28°♂06'25	5.97098 AU
evening set	3180 Nov 15 07:32	3°♂15'26			3186 May 28 00:01	0°♂	
max. Earth dist.	3180 Nov 26 01:17	5°♂36'34	6.40805 AU	morning rise	3186 May 31 16:33	0°♂52'42	
				retrograde	3186 Oct 09 23:09	21°♂12'39	
conjunction	3180 Nov 28 01:57	6°♂03'18	0°45'36	min. Earth dist.	3186 Dec 07 01:17	16°♂20'00	4.01813 AU
minimum elong	3180 Nov 28 01:58	6°♂03'19	0°45'36	opposition	3186 Dec 08 13:17	16°♂07'44	0°-55'-5
morning rise	3180 Dec 10 18:06	8°♂50'18		direct	3187 Feb 04 15:40	11°♂10'48	
retrograde	3181 Apr 11 05:34	26°♂00'02			3187 Jun 08 20:12	0°♂	
opposition	3181 Jun 11 03:33	21°♂08'04	0°47'49	evening set	3187 Jun 10 22:23	0°♂29'01	
min. Earth dist.	3181 Jun 12 16:23	20°♂56'20	4.35649 AU				
direct	3181 Aug 12 12:36	16°♂08'10		conjunction	3187 Jun 24 15:52	3°♂40'28	0°-20'-8
	3181 Nov 27 14:28	0°♂		minimum elong	3187 Jun 24 15:53	3°♂40'28	0°20'09
evening set	3181 Dec 16 05:44	4°♂05'50		max. Earth dist.	3187 Jun 27 00:29	4°♂13'25	6.08047 AU
max. Earth dist.	3181 Dec 26 19:16	6°♂28'39	6.29166 AU	morning rise	3187 Jul 08 10:40	6°♂52'20	
				retrograde	3187 Nov 13 16:41	26°♂10'01	
conjunction	3181 Dec 28 22:18	6°♂57'32	0°16'55	min. Earth dist.	3188 Jan 10 23:02	21°♂16'46	4.15240 AU
minimum elong	3181 Dec 28 22:19	6°♂57'32	0°16'56	opposition	3188 Jan 12 07:11	21°♂05'51	0°-2'-30
morning rise	3182 Jan 10 13:51	9°♂48'59		asc. node	3188 Jan 30 17:02	18°♂42'28	
retrograde	3182 May 14 19:50	27°♂50'28		direct	3188 Mar 11 09:21	16°♂06'01	
desc. node	3182 Jul 10 11:00	23°♂29'25			3188 Jun 24 08:07	0°♂	
opposition	3182 Jul 14 14:42	22°♂57'33	0°00'-32	evening set	3188 Jul 15 22:32	4°♂44'28	
min. Earth dist.	3182 Jul 16 01:11	22°♂46'30	4.21856 AU				
direct	3182 Sep 14 01:16	17°♂59'58		conjunction	3188 Jul 29 15:13	7°♂49'00	0°16'17
	3182 Dec 19 01:25	0°♂		minimum elong	3188 Jul 29 15:12	7°♂48'59	0°16'17
evening set	3183 Jan 17 11:26	6°♂35'07		max. Earth dist.	3188 Jul 31 09:26	8°♂12'43	6.22789 AU
max. Earth dist.	3183 Jan 28 14:02	9°♂10'27	6.14370 AU	morning rise	3188 Aug 12 07:30	10°♂53'00	
					3188 Aug 31 02:34	15°♂	
conjunction	3183 Jan 30 05:01	9°♂33'15	0°-18'-12	retrograde	3188 Dec 14 23:28	29°♂01'11	
minimum elong	3183 Jan 30 05:00	9°♂33'14	0°18'12	opposition	3189 Feb 12 20:56	23°♂59'55	0°47'29
morning rise	3183 Feb 11 23:02	12°♂31'53		min. Earth dist.	3189 Feb 12 01:10	24°♂06'32	4.29910 AU
	3183 Feb 22 15:53	15°♂		direct	3189 Apr 14 06:03	18°♂58'02	
	3183 May 17 11:03	0°♂			3189 Jul 16 15:08	0°♂	
retrograde	3183 Jun 19 17:09	1°♂42'22		evening set	3189 Aug 18 23:08	6°♂59'05	
	3183 Jul 23 03:41	30°♂					
opposition	3183 Aug 19 06:29	26°♂46'57	0°-52'-6	conjunction	3189 Sep 01 10:26	9°♂55'37	0°45'53
min. Earth dist.	3183 Aug 20 00:40	26°♂41'03	4.07174 AU	minimum elong	3189 Sep 01 10:24	9°♂55'36	0°45'53
direct	3183 Oct 18 05:55	21°♂51'50		max. Earth dist.	3189 Sep 02 02:15	10°♂04'16	6.36256 AU
	3184 Jan 01 08:49	0°♂		morning rise	3189 Sep 14 19:47	12°♂51'00	
evening set	3184 Feb 20 17:02	11°♂07'49			3190 Jan 07 04:53	0°♂	
				retrograde	3190 Jan 14 17:13	0°♂05'26	
conjunction	3184 Mar 04 14:35	14°♂13'22	0°-48'-40		3190 Jan 22 04:42	30°♂	
minimum elong	3184 Mar 04 14:33	14°♂13'21	0°48'41	opposition	3190 Mar 15 21:27	25°♂07'54	1°20'39
max. Earth dist.	3184 Mar 04 03:06	14°♂06'29	6.01124 AU	min. Earth dist.	3190 Mar 15 20:27	25°♂08'14	4.41230 AU
morning rise	3184 Mar 17 14:03	17°♂20'10		direct	3190 May 16 13:09	20°♂05'12	
	3184 May 14 12:31	0°♀			3190 Aug 13 14:05	0°♂	
retrograde	3184 Jul 26 15:30	7°♀35'08		evening set	3190 Sep 20 03:47	7°♂41'01	
opposition	3184 Sep 24 17:20	2°♀36'03	-1°-27'-32				
min. Earth dist.	3184 Sep 24 13:25	2°♀37'21	3.96703 AU	conjunction	3190 Oct 03 07:58	10°♂31'21	1°01'18
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



























































































































































max. Earth dist.	3190 Oct 02 18:33	10°♂24'06	6.44558 AU	minimum elong	3196 Mar 09 13:12	19°♂17'47	0°51'44
morning rise	3190 Oct 16 09:36	13°♂20'21		max. Earth dist.	3196 Mar 09 06:36	19°♂13'49	6.00193 AU
	3191 Feb 05 08:37	0°♂		morning rise	3196 Mar 22 13:34	22°♂25'24	
retrograde	3191 Feb 13 17:48	0°♂06'42			3196 Apr 24 09:44	0°♂	
	3191 Feb 22 01:59	30°♂♂		retrograde	3196 Jul 31 21:25	12°♂45'03	
opposition	3191 Apr 15 06:01	25°♂12'21	1°30'48	opposition	3196 Sep 29 22:38	7°♂45'28	-1°-29'-53
min. Earth dist.	3191 Apr 15 23:11	25°♂06'48	4.46138 AU	min. Earth dist.	3196 Sep 29 15:25	7°♂47'52	3.96329 AU
direct	3191 Jun 16 17:41	20°♂09'51		direct	3196 Nov 27 10:36	2°♂51'49	
	3191 Sep 13 20:53	0°♂		evening set	3197 Apr 02 01:51	22°♂35'56	
evening set	3191 Oct 21 02:34	7°♂37'07					
max. Earth dist.	3191 Nov 01 13:05	10°♂05'18	6.45680 AU	conjunction	3197 Apr 15 07:15	25°♂48'04	-1°-1'-41
				minimum elong	3197 Apr 15 07:16	25°♂48'04	1°01'42
conjunction	3191 Nov 03 00:38	10°♂24'33	0°59'50	max. Earth dist.	3197 Apr 16 09:00	26°♂03'40	5.94587 AU
minimum elong	3191 Nov 03 00:39	10°♂24'34	0°59'50	morning rise	3197 Apr 28 15:50	29°♂01'53	
morning rise	3191 Nov 15 19:52	13°♂10'46			3197 May 02 16:44	0°♂	
	3191 Nov 24 08:05	15°♂			3197 Jul 13 23:16	15°♂	
retrograde	3192 Mar 15 02:47	29°♂57'36		retrograde	3197 Sep 08 01:07	19°♂44'11	
opposition	3192 May 14 21:55	25°♂05'14	1°16'58		3197 Nov 04 10:34	15°♂♂	
min. Earth dist.	3192 May 16 04:48	24°♂55'22	4.43498 AU	opposition	3197 Nov 06 18:46	14°♂40'59	-1°-26'-13
direct	3192 Jul 16 15:07	20°♂03'54		min. Earth dist.	3197 Nov 05 15:24	14°♂50'15	3.95371 AU
	3192 Oct 13 18:40	0°♂♂		direct	3198 Jan 03 16:06	9°♂46'21	
evening set	3192 Nov 19 15:29	7°♂40'12			3198 Mar 02 08:15	15°♂	
max. Earth dist.	3192 Nov 30 07:26	10°♂00'53	6.39426 AU	evening set	3198 May 09 15:11	29°♂28'03	
					3198 May 11 20:56	0°♂	
conjunction	3192 Dec 02 09:22	10°♂28'26	0°42'13				
minimum elong	3192 Dec 02 09:23	10°♂28'27	0°42'13	conjunction	3198 May 23 04:35	2°♂42'09	0°-47'-20
morning rise	3192 Dec 15 01:24	13°♂15'55		minimum elong	3198 May 23 04:38	2°♂42'10	0°47'21
	3193 Mar 28 10:02	0°♂		max. Earth dist.	3198 May 25 07:59	3°♂12'51	5.98322 AU
retrograde	3193 Apr 15 21:30	0°♂31'37		morning rise	3198 Jun 05 20:32	5°♂57'28	
	3193 May 04 07:17	30°♂♂		retrograde	3198 Oct 14 20:25	26°♂10'24	
opposition	3193 Jun 15 18:27	25°♂39'38	0°41'42	min. Earth dist.	3198 Dec 11 22:10	21°♂17'27	4.03374 AU
min. Earth dist.	3193 Jun 17 07:56	25°♂27'41	4.33969 AU	opposition	3198 Dec 13 09:12	21°♂05'30	0°-48'-33
direct	3193 Aug 17 02:12	20°♂40'04		direct	3199 Feb 09 14:19	16°♂08'13	
	3193 Nov 09 17:02	0°♂			3199 May 23 03:51	0°♂	
evening set	3193 Dec 20 16:49	8°♂42'04		evening set	3199 Jun 15 21:41	5°♂21'47	
max. Earth dist.	3193 Dec 31 07:48	11°♂06'19	6.27341 AU				
				conjunction	3199 Jun 29 15:22	8°♂32'34	0°-15'-15
conjunction	3194 Jan 02 09:26	11°♂34'31	0°12'10	minimum elong	3199 Jun 29 15:23	8°♂32'34	0°15'15
minimum elong	3194 Jan 02 09:27	11°♂34'31	0°12'09	behind sun begin	3199 Jun 29 13:10	8°♂31'18	
behind sun begin	3194 Jan 02 03:59	11°♂31'26		behind sun end	3199 Jun 29 17:36	8°♂33'51	
behind sun end	3194 Jan 02 14:55	11°♂37'36		max. Earth dist.	3199 Jul 01 22:30	9°♂04'30	6.09800 AU
morning rise	3194 Jan 15 01:05	14°♂26'45		morning rise	3199 Jul 13 10:18	11°♂43'40	
	3194 Apr 07 23:17	0°♂			3199 Oct 25 22:57	0°♂	
retrograde	3194 May 19 16:01	2°♂36'27		retrograde	3199 Nov 18 04:07	0°♂52'36	
desc. node	3194 May 20 03:42	2°♂36'26			3199 Dec 11 05:56	30°♂♂	
	3194 Jun 30 23:25	30°♂♂		asc. node	3199 Dec 12 10:23	29°♂54'34	
opposition	3194 Jul 19 12:03	27°♂43'16	0°-7'-58	opposition	3200 Jan 16 20:10	25°♂48'47	0°04'48
min. Earth dist.	3194 Jul 20 19:40	27°♂33'08	4.20033 AU	min. Earth dist.	3200 Jan 15 12:42	25°♂59'27	4.17026 AU
direct	3194 Sep 18 17:33	22°♂46'06		direct	3200 Mar 16 00:58	20°♂48'40	
	3194 Nov 29 12:04	0°♂			3200 Jun 06 05:14	0°♂	
evening set	3195 Jan 22 03:53	11°♂25'53		evening set	3200 Jul 20 16:39	9°♂22'48	
max. Earth dist.	3195 Feb 02 10:34	14°♂04'12	6.12709 AU				
				conjunction	3200 Aug 03 08:51	12°♂26'23	0°20'54
conjunction	3195 Feb 03 21:42	14°♂24'49	0°-23'00	minimum elong	3200 Aug 03 08:49	12°♂26'22	0°20'54
minimum elong	3195 Feb 03 21:41	14°♂24'48	0°23'01	max. Earth dist.	3200 Aug 04 23:08	12°♂47'50	6.24480 AU
	3195 Feb 06 09:38	15°♂			3200 Aug 14 19:36	15°♂	
morning rise	3195 Feb 16 16:12	17°♂24'22		morning rise	3200 Aug 17 00:25	15°♂29'21	
	3195 Apr 17 01:59	0°♂			3200 Nov 01 02:37	0°♂	
retrograde	3195 Jun 24 22:07	6°♂43'06		retrograde	3200 Dec 19 07:57	3°♂30'21	
opposition	3195 Aug 24 09:43	1°♂47'13	0°-58'-24		3201 Feb 05 17:55	30°♂♂	
min. Earth dist.	3195 Aug 25 01:36	1°♂42'03	4.05816 AU	opposition	3201 Feb 17 04:58	28°♂29'39	0°53'10
	3195 Sep 07 10:35	30°♂♂		min. Earth dist.	3201 Feb 16 12:21	28°♂35'12	4.31378 AU
direct	3195 Oct 23 06:12	26°♂52'22		direct	3201 Apr 18 18:58	23°♂27'38	
	3195 Dec 06 21:20	0°♂			3201 Jun 26 22:33	0°♂	
evening set	3196 Feb 25 14:54	16°♂11'30		evening set	3201 Aug 23 12:03	11°♂25'42	
conjunction	3196 Mar 09 13:13	19°♂17'48	0°-51'-43	conjunction	3201 Sep 05 22:31	14°♂21'26	0°48'54

minimum elong	3201 Sep 05 22:29	14° $\mathring{\text{M}}$ 21'25	0°48'53	evening set	3207 Jan 26 19:07	16° \approx 14'49	
max. Earth dist.	3201 Sep 06 10:44	14° $\mathring{\text{M}}$ 28'06	6.37396 AU	max. Earth dist.	3207 Feb 07 05:35	18° \approx 55'57	6.10833 AU
morning rise	3201 Sep 19 06:52	17° $\mathring{\text{M}}$ 15'58					
	3201 Nov 24 18:46	0° $\underline{\text{A}}$		conjunction	3207 Feb 08 13:28	19° \approx 14'44	0°-27'-40
retrograde	3202 Jan 18 20:57	4° $\underline{\text{A}}$ 26'07		minimum elong	3207 Feb 08 13:27	19° \approx 14'43	0°27'40
	3202 Mar 16 04:22	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$		morning rise	3207 Feb 21 08:31	22° \approx 15'20	
opposition	3202 Mar 20 02:53	29° $\mathring{\text{M}}$ 29'03	1°23'25		3207 Mar 27 17:45	0° $\mathring{\text{H}}$	
min. Earth dist.	3202 Mar 20 03:39	29° $\mathring{\text{M}}$ 28'48	4.42007 AU	retrograde	3207 Jun 30 01:48	11° $\mathring{\text{H}}$ 43'10	
direct	3202 May 20 21:02	24° $\mathring{\text{M}}$ 26'21		opposition	3207 Aug 29 12:10	6° $\mathring{\text{H}}$ 46'50	-1°-4'-21
	3202 Jul 24 02:27	0° $\underline{\text{A}}$		min. Earth dist.	3207 Aug 30 01:05	6° $\mathring{\text{H}}$ 42'37	4.04165 AU
evening set	3202 Sep 24 12:38	12° $\underline{\text{A}}$ 00'58		direct	3207 Oct 28 03:03	1° $\mathring{\text{H}}$ 52'13	
				evening set	3208 Mar 01 13:14	21° $\mathring{\text{H}}$ 15'56	
conjunction	3202 Oct 07 15:58	14° $\underline{\text{A}}$ 50'49	1°02'03				
minimum elong	3202 Oct 07 15:57	14° $\underline{\text{A}}$ 50'49	1°02'04	conjunction	3208 Mar 14 12:15	24° $\mathring{\text{H}}$ 23'08	0°-54'-26
max. Earth dist.	3202 Oct 07 00:06	14° $\underline{\text{A}}$ 42'15	6.44923 AU	minimum elong	3208 Mar 14 12:13	24° $\mathring{\text{H}}$ 23'07	0°54'26
morning rise	3202 Oct 20 16:33	17° $\underline{\text{A}}$ 39'18		max. Earth dist.	3208 Mar 14 08:44	24° $\mathring{\text{H}}$ 21'01	5.98904 AU
	3202 Dec 24 16:53	0° $\mathring{\text{M}}$		morning rise	3208 Mar 27 13:42	27° $\mathring{\text{H}}$ 31'46	
retrograde	3203 Feb 17 22:39	4° $\mathring{\text{M}}$ 24'37			3208 Apr 06 23:03	0° $\mathring{\text{Y}}$	
	3203 Apr 15 16:41	30° $\mathring{\text{Y}}$ $\underline{\text{A}}$		retrograde	3208 Aug 06 03:38	17° $\mathring{\text{Y}}$ 57'31	
opposition	3203 Apr 19 11:58	29° $\underline{\text{A}}$ 30'38	1°30'13	opposition	3208 Oct 05 04:17	12° $\mathring{\text{Y}}$ 57'21	-1°-31'-39
min. Earth dist.	3203 Apr 20 07:12	29° $\underline{\text{A}}$ 24'26	4.46080 AU	min. Earth dist.	3208 Oct 04 17:55	13° $\mathring{\text{Y}}$ 00'48	3.95550 AU
direct	3203 Jun 21 01:41	24° $\underline{\text{A}}$ 28'17		direct	3208 Dec 02 13:10	8° $\mathring{\text{Y}}$ 03'36	
	3203 Aug 24 10:34	0° $\mathring{\text{M}}$		evening set	3209 Apr 07 05:36	27° $\mathring{\text{Y}}$ 49'38	
evening set	3203 Oct 25 09:13	11° $\mathring{\text{M}}$ 56'00			3209 Apr 16 05:21	0° $\mathring{\text{B}}$	
max. Earth dist.	3203 Nov 05 15:37	14° $\mathring{\text{M}}$ 22'16	6.45183 AU				
conjunction	3203 Nov 07 06:28	14° $\mathring{\text{M}}$ 43'21	0°58'14	conjunction	3209 Apr 20 12:20	1° $\mathring{\text{B}}$ 02'25	-1°-1'-6
minimum elong	3203 Nov 07 06:29	14° $\mathring{\text{M}}$ 43'21	0°58'14	minimum elong	3209 Apr 20 12:21	1° $\mathring{\text{B}}$ 02'26	1°01'06
	3203 Nov 08 13:10	15° $\mathring{\text{M}}$		max. Earth dist.	3209 Apr 21 19:27	1° $\mathring{\text{B}}$ 21'17	5.94400 AU
morning rise	3203 Nov 20 01:15	17° $\mathring{\text{M}}$ 29'33		morning rise	3209 May 03 21:56	4° $\mathring{\text{B}}$ 16'49	
	3204 Jan 24 18:29	0° $\mathring{\text{A}}$			3209 Jun 20 08:40	15° $\mathring{\text{B}}$	
retrograde	3204 Mar 19 11:13	4° $\mathring{\text{A}}$ 18'41		retrograde	3209 Sep 13 07:55	24° $\mathring{\text{B}}$ 58'42	
	3204 May 14 21:15	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$		opposition	3209 Nov 11 23:07	19° $\mathring{\text{B}}$ 55'09	-1°-22'-42
opposition	3204 May 19 06:44	29° $\mathring{\text{M}}$ 26'23	1°13'09	min. Earth dist.	3209 Nov 10 18:48	20° $\mathring{\text{B}}$ 04'44	3.95800 AU
min. Earth dist.	3204 May 20 15:02	29° $\mathring{\text{M}}$ 16'04	4.42585 AU	direct	3210 Jan 08 20:34	15° $\mathring{\text{B}}$ 00'12	
direct	3204 Jul 21 00:16	24° $\mathring{\text{M}}$ 25'11			3210 Apr 24 20:17	0° $\mathring{\text{II}}$	
	3204 Sep 23 09:03	0° $\mathring{\text{A}}$		evening set	3210 May 14 20:43	4° $\mathring{\text{II}}$ 40'04	
evening set	3204 Nov 23 22:21	12° $\mathring{\text{A}}$ 03'47		conjunction	3210 May 28 10:59	7° $\mathring{\text{II}}$ 54'07	0°-43'-37
max. Earth dist.	3204 Dec 04 14:41	14° $\mathring{\text{A}}$ 25'05	6.38148 AU	minimum elong	3210 May 28 11:01	7° $\mathring{\text{II}}$ 54'08	0°43'38
conjunction	3204 Dec 06 16:02	14° $\mathring{\text{A}}$ 52'24	0°38'36	max. Earth dist.	3210 May 30 15:54	8° $\mathring{\text{II}}$ 25'38	5.99310 AU
minimum elong	3204 Dec 06 16:04	14° $\mathring{\text{A}}$ 52'25	0°38'36	morning rise	3210 Jun 11 03:52	11° $\mathring{\text{II}}$ 09'20	
morning rise	3204 Dec 19 07:40	17° $\mathring{\text{A}}$ 40'15			3210 Sep 21 20:27	0° $\mathring{\text{B}}$	
	3205 Feb 20 01:47	0° $\mathring{\text{B}}$		retrograde	3210 Oct 19 18:25	1° $\mathring{\text{B}}$ 15'41	
retrograde	3205 Apr 20 09:35	5° $\mathring{\text{B}}$ 01'27			3210 Nov 16 11:11	30° $\mathring{\text{R}}$ $\mathring{\text{II}}$	
opposition	3205 Jun 20 07:59	0° $\mathring{\text{B}}$ 09'21	0°35'22	min. Earth dist.	3210 Dec 16 19:45	26° $\mathring{\text{II}}$ 23'07	4.04816 AU
	3205 Jun 21 13:19	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$		opposition	3210 Dec 18 07:57	26° $\mathring{\text{II}}$ 10'47	0°-41'-29
min. Earth dist.	3205 Jun 21 20:49	29° $\mathring{\text{A}}$ 57'37	4.32378 AU	direct	3211 Feb 14 14:03	21° $\mathring{\text{II}}$ 13'07	
direct	3205 Aug 21 12:54	25° $\mathring{\text{A}}$ 10'03			3211 May 04 00:25	0° $\mathring{\text{B}}$	
	3205 Oct 19 04:38	0° $\mathring{\text{B}}$		evening set	3211 Jun 21 00:38	10° $\mathring{\text{B}}$ 22'22	
evening set	3205 Dec 25 02:48	13° $\mathring{\text{B}}$ 16'07		conjunction	3211 Jul 04 18:27	13° $\mathring{\text{B}}$ 32'24	0°-10'-5
max. Earth dist.	3206 Jan 04 18:09	15° $\mathring{\text{B}}$ 41'13	6.25538 AU	minimum elong	3211 Jul 04 18:28	13° $\mathring{\text{B}}$ 32'25	0°10'06
conjunction	3206 Jan 06 19:15	16° $\mathring{\text{B}}$ 09'13	0°07'21	behind sun begin	3211 Jul 04 11:50	13° $\mathring{\text{B}}$ 28'36	
minimum elong	3206 Jan 06 19:16	16° $\mathring{\text{B}}$ 09'14	0°07'21	behind sun end	3211 Jul 05 01:07	13° $\mathring{\text{B}}$ 36'14	
behind sun begin	3206 Jan 06 11:57	16° $\mathring{\text{B}}$ 05'05		max. Earth dist.	3211 Jul 06 23:46	14° $\mathring{\text{B}}$ 03'10	6.11586 AU
behind sun end	3206 Jan 07 02:34	16° $\mathring{\text{B}}$ 13'23		morning rise	3211 Jul 18 13:19	16° $\mathring{\text{B}}$ 42'38	
morning rise	3206 Jan 19 11:12	19° $\mathring{\text{B}}$ 02'18			3211 Sep 21 10:19	0° $\mathring{\text{Q}}$	
	3206 Mar 12 19:31	0° \approx		asc. node	3211 Oct 21 23:57	4° $\mathring{\text{Q}}$ 05'33	
desc. node	3206 Mar 30 04:56	2° \approx 53'12		retrograde	3211 Nov 22 20:25	5° $\mathring{\text{Q}}$ 42'24	
retrograde	3206 May 24 13:41	7° \approx 20'21		min. Earth dist.	3212 Jan 20 06:50	0° $\mathring{\text{Q}}$ 48'53	4.18980 AU
opposition	3206 Jul 24 08:22	2° \approx 26'49	0°-15'-20	opposition	3212 Jan 21 12:14	0° $\mathring{\text{Q}}$ 38'56	0°12'19
min. Earth dist.	3206 Jul 25 15:04	2° \approx 16'57	4.18109 AU		3212 Jan 26 07:35	30° $\mathring{\text{R}}$ $\mathring{\text{B}}$	
	3206 Aug 13 06:30	30° $\mathring{\text{R}}$ $\mathring{\text{B}}$		direct	3212 Mar 20 22:19	25° $\mathring{\text{B}}$ 38'31	
direct	3206 Sep 23 10:53	27° $\mathring{\text{B}}$ 29'54			3212 May 14 03:14	0° $\mathring{\text{Q}}$	
	3206 Nov 02 22:47	0° \approx		evening set	3212 Jul 25 13:47	14° $\mathring{\text{Q}}$ 07'27	
	3207 Jan 21 10:30	15° \approx			3212 Jul 29 12:24	15° $\mathring{\text{Q}}$	

conjunction	3212 Aug 08 05:29	17°♏09'57	0°25'33	conjunction	3218 Jan 11 01:59	20°♄35'45	0°02'39
minimum elong	3212 Aug 08 05:28	17°♏09'56	0°25'33	minimum elong	3218 Jan 11 01:57	20°♄35'44	0°02'39
max. Earth dist.	3212 Aug 09 18:18	17°♏30'29	6.26483 AU	behind sun begin	3218 Jan 10 17:59	20°♄31'12	
morning rise	3212 Aug 21 20:08	20°♏11'41		behind sun end	3218 Jan 11 09:55	20°♄40'16	
	3212 Oct 08 05:50	0°♐		morning rise	3218 Jan 23 17:59	23°♄29'41	
retrograde	3212 Dec 23 15:48	8°♐04'03		desc. node	3218 Feb 09 03:29	27°♄10'43	
opposition	3213 Feb 21 15:02	3°♐03'51	0°58'41		3218 Feb 22 05:15	0°♌	
min. Earth dist.	3213 Feb 20 23:18	3°♐09'05	4.33300 AU	retrograde	3218 May 29 07:52	11°♌57'04	
	3213 Mar 18 11:44	30°♐♌		opposition	3218 Jul 29 01:42	7°♌03'19	0°-22'-25
direct	3213 Apr 23 08:38	28°♏01'44		min. Earth dist.	3218 Jul 30 07:17	6°♌53'48	4.15912 AU
	3213 May 29 17:10	0°♐		direct	3218 Sep 27 23:04	2°♌06'43	
evening set	3213 Aug 28 02:17	15°♐54'57			3219 Jan 05 04:05	15°♌	
				evening set	3219 Jan 31 08:31	20°♌58'19	
conjunction	3213 Sep 10 11:38	18°♐49'33	0°51'42	max. Earth dist.	3219 Feb 11 20:33	23°♌41'13	6.08579 AU
minimum elong	3213 Sep 10 11:36	18°♐49'32	0°51'42				
max. Earth dist.	3213 Sep 10 19:43	18°♐53'57	6.39109 AU	conjunction	3219 Feb 13 03:13	23°♌59'23	0°-32'-1
morning rise	3213 Sep 23 18:53	21°♐42'55		minimum elong	3219 Feb 13 03:11	23°♌59'22	0°32'03
	3213 Nov 03 05:24	0°♑		morning rise	3219 Feb 25 23:08	27°♌01'18	
retrograde	3214 Jan 23 02:36	8°♑46'54			3219 Mar 10 17:52	0°♒	
opposition	3214 Mar 24 09:13	3°♑50'20	1°25'45	retrograde	3219 Jul 05 04:27	16°♒40'10	
min. Earth dist.	3214 Mar 24 13:04	3°♑49'04	4.43401 AU	opposition	3219 Sep 03 13:06	11°♒43'21	-1°-9'-46
	3214 Apr 27 00:22	30°♒♐		min. Earth dist.	3219 Sep 03 23:18	11°♒40'01	4.02052 AU
direct	3214 May 25 08:21	28°♐47'37		direct	3219 Nov 01 22:46	6°♒48'55	
	3214 Jun 22 22:38	0°♑		evening set	3220 Mar 06 11:01	26°♒19'24	
evening set	3214 Sep 28 20:40	16°♑18'43					
				conjunction	3220 Mar 19 11:14	29°♒27'55	0°-56'-42
conjunction	3214 Oct 11 23:01	19°♑07'47	1°02'30	minimum elong	3220 Mar 19 11:13	29°♒27'54	0°56'43
minimum elong	3214 Oct 11 23:01	19°♑07'47	1°02'30	max. Earth dist.	3220 Mar 19 13:13	29°♒29'07	5.97145 AU
max. Earth dist.	3214 Oct 11 03:51	18°♑57'27	6.45886 AU		3220 Mar 21 16:14	0°♑	
morning rise	3214 Oct 24 22:35	21°♑55'30		morning rise	3220 Apr 01 13:43	2°♑37'52	
	3214 Dec 03 15:51	0°♒		retrograde	3220 Aug 11 13:15	23°♑11'41	
retrograde	3215 Feb 22 00:58	8°♒38'03		opposition	3220 Oct 10 10:27	18°♑11'03	-1°-32'-41
opposition	3215 Apr 23 16:37	3°♒44'21	1°29'09	min. Earth dist.	3220 Oct 09 21:53	18°♑15'15	3.94355 AU
min. Earth dist.	3215 Apr 24 13:27	3°♒37'39	4.46564 AU	direct	3220 Dec 07 16:18	13°♑17'19	
	3215 May 26 15:05	30°♒♑			3221 Mar 30 09:38	0°♑	
direct	3215 Jun 25 07:53	28°♑42'05		evening set	3221 Apr 12 10:55	3°♑06'59	
	3215 Jul 25 06:52	0°♒					
	3215 Oct 24 05:32	15°♒		conjunction	3221 Apr 25 18:47	6°♑20'37	0°-59'-59
evening set	3215 Oct 29 13:28	16°♒08'32		minimum elong	3221 Apr 25 18:49	6°♑20'37	0°59'59
max. Earth dist.	3215 Nov 09 17:55	18°♒33'49	6.45145 AU	max. Earth dist.	3221 Apr 27 05:26	6°♑41'36	5.93873 AU
				morning rise	3221 May 09 05:51	9°♑35'52	
conjunction	3215 Nov 11 10:03	18°♒55'37	0°56'23		3221 Jun 01 04:43	15°♑	
minimum elong	3215 Nov 11 10:04	18°♒55'37	0°56'23		3221 Sep 04 23:39	0°♒	
morning rise	3215 Nov 24 04:01	21°♒41'34		retrograde	3221 Sep 18 14:02	0°♒18'20	
	3216 Jan 03 19:08	0°♑			3221 Oct 02 03:15	30°♒♑	
retrograde	3216 Mar 23 15:52	8°♑31'51		min. Earth dist.	3221 Nov 15 21:18	25°♑25'06	3.96023 AU
opposition	3216 May 23 12:47	3°♑39'42	1°09'02	opposition	3221 Nov 17 04:48	25°♑14'24	-1°-18'-27
min. Earth dist.	3216 May 24 22:46	3°♑28'53	4.42002 AU	direct	3222 Jan 14 00:28	20°♑19'09	
	3216 Jun 24 20:26	30°♒♒			3222 Apr 05 17:04	0°♒	
direct	3216 Jul 25 06:39	28°♒38'43		evening set	3222 May 20 04:44	9°♒57'57	
	3216 Aug 24 17:50	0°♑					
evening set	3216 Nov 28 01:54	16°♑18'45		conjunction	3222 Jun 02 19:53	13°♒11'59	0°-39'-29
max. Earth dist.	3216 Dec 08 14:54	18°♑38'40	6.37041 AU	minimum elong	3222 Jun 02 19:56	13°♒12'01	0°39'30
				max. Earth dist.	3222 Jun 05 02:37	13°♒44'30	6.00256 AU
conjunction	3216 Dec 10 19:05	19°♑07'37	0°34'54	morning rise	3222 Jun 16 13:29	16°♒27'03	
minimum elong	3216 Dec 10 19:07	19°♑07'38	0°34'53		3222 Aug 19 09:44	0°♑	
morning rise	3216 Dec 23 10:41	21°♑55'53		retrograde	3222 Oct 24 19:09	6°♑26'32	
	3217 Jan 30 19:51	0°♄		min. Earth dist.	3222 Dec 21 20:31	1°♑33'47	4.06338 AU
retrograde	3217 Apr 24 20:29	9°♄22'36		opposition	3222 Dec 23 08:23	1°♑21'33	0°-34'00
opposition	3217 Jun 24 18:36	4°♄30'23	0°29'01		3223 Jan 02 10:55	30°♒♒	
min. Earth dist.	3217 Jun 26 08:02	4°♄18'26	4.30780 AU	direct	3223 Feb 19 18:28	26°♒23'24	
	3217 Aug 08 04:28	30°♒♑			3223 Apr 08 18:38	0°♑	
direct	3217 Aug 25 21:22	29°♑31'17		evening set	3223 Jun 26 05:16	15°♑27'44	
	3217 Sep 12 13:55	0°♄					
evening set	3217 Dec 29 09:16	17°♄41'47		conjunction	3223 Jul 09 23:16	18°♑36'55	0°-4'-48
max. Earth dist.	3218 Jan 09 02:05	20°♄08'19	6.23576 AU	minimum elong	3223 Jul 09 23:17	18°♑36'55	0°04'49
				behind sun begin	3223 Jul 09 15:07	18°♑32'15	

behind sun end	3223 Jul 10 07:27	18°  41'35		evening set	3230 Jan 02 22:07	22°  22'50	
max. Earth dist.	3223 Jul 12 05:24	19°  07'59	6.13540 AU	max. Earth dist.	3230 Jan 13 15:02	24°  50'14	6.21325 AU
morning rise	3223 Jul 23 17:48	21°  46'05					
asc. node	3223 Aug 30 13:01	29°  58'58		conjunction	3230 Jan 15 14:49	25°  17'44	0°-2'-28
	3223 Aug 30 15:03	0°  ♂		minimum elong	3230 Jan 15 14:49	25°  17'44	0°02'28
retrograde	3223 Nov 27 12:20	10°  ♂35'41		behind sun begin	3230 Jan 15 06:50	25°  13'10	
min. Earth dist.	3224 Jan 25 00:18	5°  ♂42'18	4.21136 AU	behind sun end	3230 Jan 15 22:47	25°  22'18	
opposition	3224 Jan 26 05:16	5°  ♂32'31	0°19'48	morning rise	3230 Jan 28 07:24	28°  12'49	
direct	3224 Mar 25 19:12	0°  ♂31'44			3230 Feb 05 03:36	0°  ≈	
	3224 Jul 12 12:16	15°  ♂			3230 Apr 29 15:53	15°  ≈	
evening set	3224 Jul 30 11:33	18°  ♂54'33		retrograde	3230 Jun 03 09:56	16°  ≈50'37	
					3230 Jul 08 08:56	15°  ≈	
conjunction	3224 Aug 13 02:19	21°  ♂55'45	0°30'04	opposition	3230 Aug 03 02:19	11°  ≈56'29	0°-29'-50
minimum elong	3224 Aug 13 02:18	21°  ♂55'44	0°30'03	min. Earth dist.	3230 Aug 04 05:28	11°  ≈47'43	4.13615 AU
max. Earth dist.	3224 Aug 14 10:35	22°  ♂13'40	6.28624 AU	direct	3230 Oct 02 18:16	7°  ≈00'12	
morning rise	3224 Aug 26 16:09	24°  ♂56'09			3230 Dec 16 21:23	15°  ≈	
	3224 Sep 19 05:10	0°  ♂		evening set	3231 Feb 05 04:31	25°  ≈58'30	
retrograde	3224 Dec 28 02:01	12°  ♂39'37					
opposition	3225 Feb 26 01:47	7°  ♂39'51	1°03'53	conjunction	3231 Feb 17 23:59	29°  ≈00'46	0°-36'-26
min. Earth dist.	3225 Feb 25 13:19	7°  ♂43'59	4.35232 AU	minimum elong	3231 Feb 17 23:58	29°  ≈00'45	0°36'27
direct	3225 Apr 28 01:04	2°  ♂37'28		max. Earth dist.	3231 Feb 16 22:32	28°  ≈45'38	6.06463 AU
evening set	3225 Sep 01 16:40	20°  ♂25'50			3231 Feb 22 03:34	0°  ♂	
				morning rise	3231 Mar 02 20:33	2°  ♂03'56	
conjunction	3225 Sep 15 01:07	23°  ♂19'23	0°54'14	retrograde	3231 Jul 10 14:45	21°  ♂53'02	
minimum elong	3225 Sep 15 01:05	23°  ♂19'22	0°54'15	opposition	3231 Sep 08 20:56	16°  ♂55'46	-1°-14'-57
max. Earth dist.	3225 Sep 15 06:27	23°  ♂22'17	6.40665 AU	min. Earth dist.	3231 Sep 09 04:28	16°  ♂53'18	4.00345 AU
morning rise	3225 Sep 28 07:03	26°  ♂11'38		direct	3231 Nov 07 01:48	12°  ♂01'39	
	3225 Oct 16 05:58	0°  ♂			3232 Mar 04 21:21	0°  ♂	
retrograde	3226 Jan 27 07:06	13°  ♂10'09		evening set	3232 Mar 11 15:08	1°  ♂36'59	
opposition	3226 Mar 28 16:09	8°  ♂14'00	1°27'40				
min. Earth dist.	3226 Mar 28 21:46	8°  ♂12'10	4.44490 AU	conjunction	3232 Mar 24 16:14	4°  ♂46'27	0°-58'-39
direct	3226 May 29 17:35	3°  ♂11'16		minimum elong	3232 Mar 24 16:13	4°  ♂46'26	0°58'40
evening set	3226 Oct 03 05:49	20°  ♂39'58		max. Earth dist.	3232 Mar 24 22:14	4°  ♂50'05	5.96017 AU
max. Earth dist.	3226 Oct 15 07:54	23°  ♂15'54	6.46417 AU	morning rise	3232 Apr 06 20:03	7°  ♂57'29	
				retrograde	3232 Aug 16 23:58	28°  ♂36'03	
conjunction	3226 Oct 16 07:07	23°  ♂28'25	1°02'38	opposition	3232 Oct 15 20:32	23°  ♂34'55	-1°-32'-59
minimum elong	3226 Oct 16 07:07	23°  ♂28'25	1°02'38	min. Earth dist.	3232 Oct 15 03:31	23°  ♂40'37	3.93986 AU
morning rise	3226 Oct 29 05:47	26°  ♂15'35		direct	3232 Dec 12 22:46	18°  ♂41'08	
	3226 Nov 15 23:35	0°  ♂			3233 Mar 11 22:41	0°  ♂	
retrograde	3227 Feb 26 07:45	12°  ♂56'55		evening set	3233 Apr 17 19:40	8°  ♂31'04	
opposition	3227 Apr 27 23:41	8°  ♂03'32	1°27'39				
min. Earth dist.	3227 Apr 28 23:42	7°  ♂55'50	4.46509 AU	conjunction	3233 May 01 04:44	11°  ♂45'03	0°-58'-24
direct	3227 Jun 29 17:25	3°  ♂01'22		minimum elong	3233 May 01 04:45	11°  ♂45'04	0°58'25
	3227 Oct 07 17:14	15°  ♂		max. Earth dist.	3233 May 02 19:55	12°  ♂08'46	5.94306 AU
evening set	3227 Nov 02 20:08	20°  ♂12'8		morning rise	3233 May 14 16:50	15°  ♂00'35	
max. Earth dist.	3227 Nov 13 20:33	22°  ♂51'36	6.44491 AU		3233 May 14 15:52	15°  ♂	
					3233 Jul 24 04:28	0°  ♂	
conjunction	3227 Nov 15 16:05	23°  ♂15'17	0°54'11	retrograde	3233 Sep 23 20:48	5°  ♂39'16	
minimum elong	3227 Nov 15 16:06	23°  ♂15'18	0°54'12	min. Earth dist.	3233 Nov 21 02:33	0°  ♂46'04	3.97200 AU
morning rise	3227 Nov 28 09:35	26°  ♂01'18		opposition	3233 Nov 22 11:08	0°  ♂34'59	-1°-13'-32
	3227 Dec 17 02:25	0°  ♂♂			3233 Nov 26 18:14	30°  ♂♂	
retrograde	3228 Mar 28 01:17	12°  ♂♂54'51		direct	3234 Jan 19 08:24	25°  ♂39'23	
opposition	3228 May 27 23:04	8°  ♂♂02'44	1°04'26		3234 Mar 12 15:42	0°  ♂♂	
min. Earth dist.	3228 May 29 09:49	7°  ♂♂51'39	4.40792 AU	evening set	3234 May 25 12:15	15°  ♂♂13'29	
direct	3228 Jul 29 15:09	3°  ♂♂01'54					
evening set	3228 Dec 02 09:53	20°  ♂♂45'19		conjunction	3234 Jun 08 04:12	18°  ♂♂27'01	0°-35'-6
max. Earth dist.	3228 Dec 12 23:22	23°  ♂♂06'00	6.35369 AU	minimum elong	3234 Jun 08 04:14	18°  ♂♂27'02	0°35'06
				max. Earth dist.	3234 Jun 10 13:48	19°  ♂♂01'03	6.02062 AU
conjunction	3228 Dec 15 02:56	23°  ♂♂34'45	0°30'49	morning rise	3234 Jun 21 22:12	21°  ♂♂41'24	
minimum elong	3228 Dec 15 02:58	23°  ♂♂34'46	0°30'49		3234 Jul 28 23:43	0°  ♂♂	
morning rise	3228 Dec 27 18:18	26°  ♂♂23'37		retrograde	3234 Oct 29 17:03	11°  ♂♂30'47	
	3229 Jan 13 06:22	0°  ♂♂		min. Earth dist.	3234 Dec 26 18:27	6°  ♂♂38'13	4.08557 AU
retrograde	3229 Apr 29 13:29	13°  ♂♂57'41		opposition	3234 Dec 28 06:28	6°  ♂♂25'57	0°-26'-27
opposition	3229 Jun 29 11:04	9° ♂♂05'22	0°22'09	direct	3235 Feb 24 19:40	1° ♂♂27'26	
min. Earth dist.	3229 Jul 01 00:42	8° ♂♂53'22	4.28738 AU	evening set	3235 Jul 01 07:01	20° ♂♂24'48	
direct	3229 Aug 30 10:35	4° ♂♂06'36		asc. node	3235 Jul 10 06:59	22° ♂♂27'51	
desc. node	3229 Dec 19 09:10	19° ♂♂06'32					

conjunction	3235 Jul 15 00:41	23° \mathfrak{G} 32'47	0°00'27	morning rise	3241 Jan 01 03:12	0° \mathfrak{Z} 55'32	
minimum elong	3235 Jul 15 00:40	23° \mathfrak{G} 32'47	0°00'27	retrograde	3241 May 04 08:30	18° \mathfrak{Z} 38'20	
behind sun begin	3235 Jul 14 16:18	23° \mathfrak{G} 28'01		opposition	3241 Jul 04 05:41	13° \mathfrak{Z} 45'50	0°15'04
behind sun end	3235 Jul 15 09:02	23° \mathfrak{G} 37'32		min. Earth dist.	3241 Jul 05 17:38	13° \mathfrak{Z} 34'20	4.26471 AU
max. Earth dist.	3235 Jul 17 03:15	24° \mathfrak{G} 01'39	6.15955 AU	direct	3241 Sep 04 00:01	8° \mathfrak{Z} 47'25	
morning rise	3235 Jul 28 18:54	26° \mathfrak{G} 40'41		desc. node	3241 Oct 28 13:30	13° \mathfrak{Z} 04'45	
	3235 Aug 12 15:46	0° \mathfrak{Q}		evening set	3242 Jan 07 12:41	27° \mathfrak{Z} 09'59	
	3235 Nov 18 00:40	15° \mathfrak{Q}		max. Earth dist.	3242 Jan 18 09:52	29° \mathfrak{Z} 40'34	6.19023 AU
retrograde	3235 Dec 02 00:38	15° \mathfrak{Q} 19'18			3242 Jan 19 19:25	0° \approx	
	3235 Dec 15 22:36	15° \mathfrak{R} \mathfrak{Q}					
opposition	3236 Jan 30 18:42	10° \mathfrak{Q} 16'32	0°26'53	conjunction	3242 Jan 20 05:44	0° \approx 05'57	0°-7'-31
min. Earth dist.	3236 Jan 29 16:09	10° \mathfrak{Q} 25'29	4.23510 AU	minimum elong	3242 Jan 20 05:43	0° \approx 05'57	0°07'32
direct	3236 Mar 30 13:57	5° \mathfrak{Q} 15'25		behind sun begin	3242 Jan 19 22:26	0° \approx 01'45	
	3236 Jun 24 11:13	15° \mathfrak{Q}		behind sun end	3242 Jan 20 13:00	0° \approx 10'08	
evening set	3236 Aug 04 05:22	23° \mathfrak{Q} 31'59		morning rise	3242 Feb 01 22:34	3° \approx 02'08	
					3242 Mar 30 20:28	15° \approx	
conjunction	3236 Aug 17 19:31	26° \mathfrak{Q} 31'59	0°34'14	retrograde	3242 Jun 08 14:42	21° \approx 50'26	
minimum elong	3236 Aug 17 19:29	26° \mathfrak{Q} 31'58	0°34'13	opposition	3242 Aug 08 05:10	16° \approx 55'57	0°-37'-9
max. Earth dist.	3236 Aug 19 01:04	26° \mathfrak{Q} 48'19	6.30779 AU	min. Earth dist.	3242 Aug 09 06:25	16° \approx 47'47	4.11468 AU
morning rise	3236 Aug 31 08:09	29° \mathfrak{Q} 31'01			3242 Aug 23 13:27	15° \mathfrak{R} \approx	
	3236 Sep 02 13:06	0° \mathfrak{R}		direct	3242 Oct 07 16:39	12° \approx 00'04	
retrograde	3237 Jan 01 08:05	17° \mathfrak{R} 06'13			3242 Nov 20 18:58	15° \approx	
opposition	3237 Mar 02 09:07	12° \mathfrak{R} 07'02	1°08'31		3243 Feb 05 13:47	0° \mathfrak{H}	
min. Earth dist.	3237 Mar 01 22:56	12° \mathfrak{R} 10'25	4.37009 AU	evening set	3243 Feb 10 02:38	1° \mathfrak{H} 04'14	
direct	3237 May 02 12:01	7° \mathfrak{R} 04'36					
evening set	3237 Sep 06 03:45	24° \mathfrak{R} 49'00		conjunction	3243 Feb 22 22:36	4° \mathfrak{H} 07'32	0°-40'-37
				minimum elong	3243 Feb 22 22:34	4° \mathfrak{H} 07'31	0°40'37
conjunction	3237 Sep 19 11:02	27° \mathfrak{R} 41'38	0°56'24	max. Earth dist.	3243 Feb 22 00:29	3° \mathfrak{H} 54'20	6.04662 AU
minimum elong	3237 Sep 19 11:01	27° \mathfrak{R} 41'37	0°56'24	morning rise	3243 Mar 07 20:09	7° \mathfrak{H} 11'53	
max. Earth dist.	3237 Sep 19 10:23	27° \mathfrak{R} 41'16	6.41917 AU	retrograde	3243 Jul 15 23:13	27° \mathfrak{H} 09'28	
	3237 Sep 30 02:49	0° \mathfrak{A}		opposition	3243 Sep 14 05:20	22° \mathfrak{H} 11'37	-1°-19'-34
morning rise	3237 Oct 02 16:04	0° \mathfrak{A} 33'00		min. Earth dist.	3243 Sep 14 08:09	22° \mathfrak{H} 10'41	3.99093 AU
retrograde	3238 Jan 31 12:15	17° \mathfrak{A} 27'36		direct	3243 Nov 12 05:16	17° \mathfrak{H} 17'37	
opposition	3238 Apr 01 21:15	12° \mathfrak{A} 31'56	1°29'06		3244 Feb 16 03:32	0° \mathfrak{Y}	
min. Earth dist.	3238 Apr 02 06:40	12° \mathfrak{A} 28'52	4.45161 AU	evening set	3244 Mar 16 19:37	6° \mathfrak{Y} 55'52	
direct	3238 Jun 03 02:06	7° \mathfrak{A} 29'12					
evening set	3238 Oct 07 12:40	24° \mathfrak{A} 56'58		conjunction	3244 Mar 29 21:46	10° \mathfrak{Y} 06'05	-1°00'-7
max. Earth dist.	3238 Oct 19 11:09	27° \mathfrak{A} 31'01	6.46452 AU	minimum elong	3244 Mar 29 21:45	10° \mathfrak{Y} 06'04	1°00'08
				max. Earth dist.	3244 Mar 30 09:41	10° \mathfrak{Y} 13'19	5.95418 AU
conjunction	3238 Oct 20 13:17	27° \mathfrak{A} 45'08	1°02'26	morning rise	3244 Apr 12 02:35	13° \mathfrak{Y} 17'51	
minimum elong	3238 Oct 20 13:17	27° \mathfrak{A} 45'08	1°02'26		3244 Jul 02 05:56	0° \mathfrak{X}	
	3238 Oct 30 23:29	0° \mathfrak{M}		retrograde	3244 Aug 22 10:00	3° \mathfrak{X} 58'42	
morning rise	3238 Nov 02 11:00	0° \mathfrak{M} 31'57			3244 Oct 13 08:26	30° \mathfrak{R} \mathfrak{Y}	
	3239 Jan 22 23:58	15° \mathfrak{M}		min. Earth dist.	3244 Oct 20 10:15	29° \mathfrak{Y} 03'24	3.94107 AU
retrograde	3239 Mar 02 12:29	17° \mathfrak{M} 13'57		opposition	3244 Oct 21 05:29	28° \mathfrak{Y} 56'56	-1°-32'-27
	3239 Apr 10 07:39	15° \mathfrak{R} \mathfrak{M}		direct	3244 Dec 18 06:53	24° \mathfrak{Y} 02'58	
opposition	3239 May 02 05:52	12° \mathfrak{M} 20'51	1°25'44		3245 Feb 18 01:54	0° \mathfrak{X}	
min. Earth dist.	3239 May 03 07:08	12° \mathfrak{M} 12'44	4.45933 AU	evening set	3245 Apr 23 02:52	13° \mathfrak{X} 51'16	
direct	3239 Jul 03 22:43	7° \mathfrak{M} 18'51			3245 Apr 27 21:11	15° \mathfrak{X}	
	3239 Sep 19 06:14	15° \mathfrak{M}					
evening set	3239 Nov 07 02:28	24° \mathfrak{M} 47'51		conjunction	3245 May 06 13:03	17° \mathfrak{X} 05'22	0°-56'-20
max. Earth dist.	3239 Nov 18 00:25	27° \mathfrak{M} 10'21	6.43346 AU	minimum elong	3245 May 06 13:05	17° \mathfrak{X} 05'23	0°56'21
				max. Earth dist.	3245 May 08 08:46	17° \mathfrak{X} 31'44	5.95116 AU
conjunction	3239 Nov 19 21:51	27° \mathfrak{M} 35'10	0°51'43	morning rise	3245 May 20 02:08	20° \mathfrak{X} 20'57	
minimum elong	3239 Nov 19 21:53	27° \mathfrak{M} 35'11	0°51'43		3245 Jul 01 14:27	0° \mathfrak{I}	
	3239 Nov 30 23:23	0° \mathfrak{X}		retrograde	3245 Sep 29 00:43	10° \mathfrak{I} 54'05	
morning rise	3239 Dec 02 14:57	0° \mathfrak{X} 21'29		min. Earth dist.	3245 Nov 26 04:35	6° \mathfrak{I} 01'09	3.98616 AU
retrograde	3240 Apr 01 13:36	17° \mathfrak{X} 20'01		opposition	3245 Nov 27 14:36	5° \mathfrak{I} 49'35	-1°-8'-7
opposition	3240 Jun 01 10:12	12° \mathfrak{X} 28'02	0°59'29	direct	3246 Jan 24 12:50	0° \mathfrak{I} 53'36	
min. Earth dist.	3240 Jun 02 22:47	12° \mathfrak{X} 16'23	4.39143 AU	evening set	3246 May 30 17:38	20° \mathfrak{I} 22'34	
direct	3240 Aug 03 01:11	7° \mathfrak{X} 27'29					
evening set	3240 Dec 06 18:48	25° \mathfrak{X} 15'38		conjunction	3246 Jun 13 09:57	23° \mathfrak{I} 35'26	0°-30'-30
max. Earth dist.	3240 Dec 17 06:55	27° \mathfrak{X} 36'16	6.33343 AU	minimum elong	3246 Jun 13 09:59	23° \mathfrak{I} 35'27	0°30'32
				max. Earth dist.	3246 Jun 15 18:20	24° \mathfrak{I} 08'35	6.03926 AU
conjunction	3240 Dec 19 11:42	28° \mathfrak{X} 05'49	0°26'33	morning rise	3246 Jun 27 04:27	26° \mathfrak{I} 49'06	
minimum elong	3240 Dec 19 11:43	28° \mathfrak{X} 05'50	0°26'33		3246 Jul 10 23:53	0° \mathfrak{G}	
	3240 Dec 27 23:40	0° \mathfrak{Z}		retrograde	3246 Nov 03 11:02	16° \mathfrak{G} 28'30	

min. Earth dist.	3246 Dec 31 14:31	11°  35'46	4.10665 AU	evening set	3252 Dec 11 05:03	29°  48'35	
opposition	3247 Jan 02 01:41	11°  23'47	0°-18'-52		3252 Dec 12 01:32	0° 	
direct	3247 Mar 01 18:55	6°  24'48		max. Earth dist.	3252 Dec 21 18:34	2°  10'36	6.31527 AU
asc. node	3247 May 20 06:41	15°  15'20					
evening set	3247 Jul 06 06:28	25°  16'01		conjunction	3252 Dec 23 21:45	2°  39'25	0°22'05
				minimum elong	3252 Dec 23 21:47	2°  39'26	0°22'06
conjunction	3247 Jul 20 00:03	28°  22'57	0°05'36	morning rise	3253 Jan 05 13:14	5°  29'53	
minimum elong	3247 Jul 20 00:03	28°  22'57	0°05'36	retrograde	3253 May 09 05:51	23°  20'41	
behind sun begin	3247 Jul 19 16:02	28°  18'25		opposition	3253 Jul 09 01:23	18°  28'04	0°07'49
behind sun end	3247 Jul 20 08:03	28°  27'29		min. Earth dist.	3253 Jul 10 12:59	18°  30'21	4.24539 AU
max. Earth dist.	3247 Jul 22 01:03	28°  50'48	6.18145 AU	desc. node	3253 Sep 06 23:34	13°  30'05	
	3247 Jul 27 02:59	0° 		direct	3253 Sep 08 17:01	13°  30'05	
morning rise	3247 Aug 02 17:37	1°  29'36			3254 Jan 03 13:58	0° 	
	3247 Oct 09 09:56	15° 		evening set	3254 Jan 12 03:52	1°  57'45	
retrograde	3247 Dec 06 12:32	19°  58'23		max. Earth dist.	3254 Jan 23 03:08	4°  30'12	6.17152 AU
min. Earth dist.	3248 Feb 03 06:26	15°  04'14	4.25580 AU				
	3248 Feb 03 19:03	15°  R 		conjunction	3254 Jan 24 21:04	4°  54'34	0°-12'-29
opposition	3248 Feb 04 06:39	14°  56'06	0°33'42	minimum elong	3254 Jan 24 21:04	4°  54'34	0°12'31
direct	3248 Apr 04 06:21	9°  54'45		behind sun begin	3254 Jan 24 15:47	4°  51'31	
	3248 Jun 02 21:02	15° 		behind sun end	3254 Jan 25 02:21	4°  57'37	
evening set	3248 Aug 08 22:02	28°  06'09		morning rise	3254 Feb 06 14:27	7°  51'45	
	3248 Aug 17 13:14	0° 			3254 Mar 10 14:25	15° 	
conjunction	3248 Aug 22 11:14	1°  05'02	0°38'10	retrograde	3254 Jun 13 16:17	26°  48'56	
minimum elong	3248 Aug 22 11:12	1°  05'01	0°38'10	opposition	3254 Aug 13 07:25	21°  54'03	0°-44'-7
max. Earth dist.	3248 Aug 23 11:39	1°  18'29	6.32557 AU	min. Earth dist.	3254 Aug 14 04:46	21°  47'08	4.09825 AU
morning rise	3248 Sep 04 23:02	4°  02'56		direct	3254 Oct 12 13:17	16°  58'33	
retrograde	3249 Jan 05 14:00	21°  31'21			3255 Jan 19 11:35	0° 	
opposition	3249 Mar 06 16:18	16°  32'38	1°12'46	evening set	3255 Feb 14 23:39	6°  K 	0°06'51
min. Earth dist.	3249 Mar 06 09:06	16°  35'01	4.38394 AU	conjunction	3255 Feb 27 20:14	9°  K 	0°-44'-25
direct	3249 May 06 23:05	11°  30'03		minimum elong	3255 Feb 27 20:12	9°  K 	0°44'25
evening set	3249 Sep 10 14:44	29°  11'40		max. Earth dist.	3255 Feb 27 03:30	9°  K 	6.03397 AU
	3249 Sep 14 08:36	0° 		morning rise	3255 Mar 12 18:27	12°  K 	
conjunction	3249 Sep 23 21:13	2°  03'34	0°58'15		3255 Jun 12 08:56	0° 	
minimum elong	3249 Sep 23 21:11	2°  03'34	0°58'14	retrograde	3255 Jul 21 07:30	2°  Y 	
max. Earth dist.	3249 Sep 23 17:46	2°  01'43	6.42812 AU		3255 Aug 29 09:07	30°  R 	
morning rise	3249 Oct 07 01:01	4°  54'08		opposition	3255 Sep 19 11:28	27°  K 	-1°-23'-23
retrograde	3250 Feb 04 16:30	21°  45'51		min. Earth dist.	3255 Sep 19 11:49	27°  K 	3.98336 AU
opposition	3250 Apr 06 02:53	16°  50'39	1°30'04	direct	3255 Nov 17 08:59	22°  K 	
min. Earth dist.	3250 Apr 06 14:18	16°  46'57	4.45533 AU		3256 Jan 27 06:06	0° 	
direct	3250 Jun 07 09:21	11°  48'02		evening set	3256 Mar 21 21:31	12°  Y 	
evening set	3250 Oct 11 20:34	29°  15'38		conjunction	3256 Apr 04 00:38	15°  Y 	-1°-1'-3
	3250 Oct 15 07:15	0° 		minimum elong	3256 Apr 04 00:37	15°  Y 	1°01'03
conjunction	3250 Oct 24 20:13	2°  03'31	1°01'53	max. Earth dist.	3256 Apr 04 17:24	15°  Y 	5.95236 AU
minimum elong	3250 Oct 24 20:14	2°  03'31	1°01'54	morning rise	3256 Apr 17 06:30	18°  Y 	
max. Earth dist.	3250 Oct 23 13:33	1°  46'57	6.46263 AU		3256 Jun 07 11:31	0° 	
morning rise	3250 Nov 06 17:20	4°  50'10		retrograde	3256 Aug 27 15:05	9°  8 	
	3250 Dec 28 01:03	15° 		opposition	3256 Oct 26 10:00	4°  8 	-1°-31'-7
retrograde	3251 Mar 06 21:22	21°  33'27		min. Earth dist.	3256 Oct 25 12:05	4°  8 	3.94548 AU
opposition	3251 May 06 13:49	16°  40'39	1°23'20		3256 Dec 02 14:16	30°  R 	
min. Earth dist.	3251 May 07 17:51	16°  31'40	4.45210 AU	direct	3256 Dec 23 08:58	29°  Y 	
	3251 May 19 22:06	15°  R 			3257 Jan 13 05:12	0° 	
direct	3251 Jul 08 07:48	11°  38'49		evening set	3257 Apr 11 05:21	15°  8 	
	3251 Aug 26 09:33	15° 			3257 Apr 28 06:29	19°  8 	
evening set	3251 Nov 11 09:50	29°  11'12		conjunction	3257 May 11 17:29	22°  8 	0°-53'-53
	3251 Nov 15 05:23	0° 		minimum elong	3257 May 11 17:31	22°  8 	0°53'54
max. Earth dist.	3251 Nov 22 06:15	1°  32'17	6.42148 AU	max. Earth dist.	3257 May 13 14:06	22°  8 	5.96111 AU
				morning rise	3257 May 25 07:36	25°  8 	
conjunction	3251 Nov 24 04:52	1°  35'49	0°48'55		3257 Jun 13 10:17	0° 	
minimum elong	3251 Nov 24 04:54	1°  35'50	0°48'55	retrograde	3257 Oct 03 22:50	15°  II 	
morning rise	3251 Dec 06 21:32	4°  34'29		min. Earth dist.	3257 Dec 01 02:31	11°  II 	4.00046 AU
retrograde	3252 Apr 06 01:21	21°  34'48'11		opposition	3257 Dec 02 13:15	10°  II 	-1°-2'-22
opposition	3252 Jun 05 23:00	16°  35'15	0°54'06	direct	3258 Jan 29 13:29	5°  II 	
min. Earth dist.	3252 Jun 07 10:59	16°  34'48	4.37564 AU	evening set	3258 Jun 04 18:34	25°  II 	
direct	3252 Aug 07 10:27	11°  35'04					

conjunction	3258 Jun 18 11:33	28° Π 33'48	0°-25'-53	retrograde	3264 Apr 10 14:24	26° \mathcal{Z} 15'03	
minimum elong	3258 Jun 18 11:35	28° Π 33'49	0°25'54	opposition	3264 Jun 10 11:24	21° \mathcal{Z} 23'03	0°48'24
max. Earth dist.	3258 Jun 20 20:16	29° Π 07'00	6.05673 AU	min. Earth dist.	3264 Jun 12 00:36	21° \mathcal{Z} 11'12	4.36123 AU
	3258 Jun 24 14:51	0° \mathcal{E}		direct	3264 Aug 11 22:20	16° \mathcal{Z} 23'03	
morning rise	3258 Jul 02 06:08	1° \mathcal{E} 46'43			3264 Nov 25 21:06	0° \mathcal{Z}	
retrograde	3258 Nov 08 03:28	21° \mathcal{E} 17'09		evening set	3264 Dec 15 13:58	4° \mathcal{Z} 19'07	
min. Earth dist.	3259 Jan 05 07:48	16° \mathcal{E} 24'03	4.12532 AU	max. Earth dist.	3264 Dec 26 03:55	6° \mathcal{Z} 41'57	6.29821 AU
opposition	3259 Jan 06 17:10	16° \mathcal{E} 12'42	0°-11'-27				
direct	3259 Mar 06 14:01	11° \mathcal{E} 13'24		conjunction	3264 Dec 28 06:41	7° \mathcal{Z} 10'36	0°17'30
asc. node	3259 Mar 31 18:25	12° \mathcal{E} 15'24		minimum elong	3264 Dec 28 06:42	7° \mathcal{Z} 10'36	0°17'30
evening set	3259 Jul 11 02:33	29° \mathcal{E} 59'38		morning rise	3265 Jan 09 22:11	10° \mathcal{Z} 01'46	
	3259 Jul 11 03:12	0° \mathcal{Q}		retrograde	3265 May 13 23:06	28° \mathcal{Z} 00'12	
				opposition	3265 Jul 13 19:54	23° \mathcal{Z} 07'16	0°00'32
conjunction	3259 Jul 24 19:46	3° \mathcal{Q} 05'38	0°10'28	min. Earth dist.	3265 Jul 15 05:26	22° \mathcal{Z} 56'32	4.22663 AU
minimum elong	3259 Jul 24 19:45	3° \mathcal{Q} 05'38	0°10'28	desc. node	3265 Jul 17 21:01	22° \mathcal{Z} 36'14	
behind sun begin	3259 Jul 24 13:18	3° \mathcal{Q} 02'00		direct	3265 Sep 13 06:49	18° \mathcal{Z} 09'35	
behind sun end	3259 Jul 25 02:12	3° \mathcal{Q} 09'16			3265 Dec 17 16:47	0° \approx	
max. Earth dist.	3259 Jul 26 17:20	3° \mathcal{Q} 31'24	6.19976 AU	evening set	3266 Jan 16 17:42	6° \approx 42'11	
morning rise	3259 Aug 07 12:57	6° \mathcal{Q} 11'16		max. Earth dist.	3266 Jan 27 20:00	9° \approx 17'03	6.15245 AU
	3259 Sep 17 23:43	15° \mathcal{Q}					
retrograde	3259 Dec 10 19:53	24° \mathcal{Q} 31'51		conjunction	3266 Jan 29 11:05	9° \approx 39'52	0°-17'-22
opposition	3260 Feb 08 15:54	19° \mathcal{Q} 30'01	0°40'04	minimum elong	3266 Jan 29 11:04	9° \approx 39'51	0°17'23
min. Earth dist.	3260 Feb 07 17:24	19° \mathcal{Q} 37'34	4.27243 AU	morning rise	3266 Feb 11 04:53	12° \approx 38'02	
	3260 Mar 21 18:11	15° \mathcal{R} \mathcal{Q}			3266 Feb 21 11:30	15° \approx	
direct	3260 Apr 08 19:01	14° \mathcal{Q} 28'25			3266 May 16 03:43	0° \mathcal{H}	
	3260 Apr 27 01:32	15° \mathcal{Q}		retrograde	3266 Jun 18 19:34	1° \mathcal{H} 44'28	
	3260 Aug 01 11:46	0° \mathcal{P}			3266 Jul 22 14:13	30° \mathcal{R} \approx	
evening set	3260 Aug 13 12:34	2° \mathcal{P} 36'14		opposition	3266 Aug 18 08:38	26° \approx 49'09	0°-50'-48
				min. Earth dist.	3266 Aug 19 04:27	26° \approx 42'42	4.08027 AU
conjunction	3260 Aug 27 01:04	5° \mathcal{P} 34'13	0°41'45	direct	3266 Oct 17 11:20	21° \approx 53'52	
minimum elong	3260 Aug 27 01:02	5° \mathcal{P} 34'12	0°41'46		3266 Dec 31 10:40	0° \mathcal{H}	
max. Earth dist.	3260 Aug 27 21:57	5° \mathcal{P} 45'43	6.33949 AU	evening set	3267 Feb 19 20:04	11° \mathcal{H} 07'06	
morning rise	3260 Sep 09 11:47	8° \mathcal{P} 31'08					
retrograde	3261 Jan 09 19:45	25° \mathcal{P} 54'07		conjunction	3267 Mar 04 17:23	14° \mathcal{H} 12'12	0°-47'-54
opposition	3261 Mar 10 22:20	20° \mathcal{P} 55'57	1°16'29	minimum elong	3267 Mar 04 17:21	14° \mathcal{H} 12'11	0°47'55
min. Earth dist.	3261 Mar 10 17:49	20° \mathcal{P} 57'26	4.39434 AU	max. Earth dist.	3267 Mar 04 04:34	14° \mathcal{H} 04'31	6.01871 AU
direct	3261 May 11 08:58	15° \mathcal{P} 53'21		morning rise	3267 Mar 17 16:31	17° \mathcal{H} 18'30	
	3261 Aug 29 05:36	0° \mathcal{A}			3267 May 14 21:21	0° \mathcal{Y}	
evening set	3261 Sep 15 00:41	3° \mathcal{A} 33'04		retrograde	3267 Jul 26 14:08	7° \mathcal{Y} 29'57	
				opposition	3267 Sep 24 16:55	2° \mathcal{Y} 31'03	-1°-26'-38
conjunction	3261 Sep 28 06:09	6° \mathcal{A} 24'22	0°59'42	min. Earth dist.	3267 Sep 24 13:54	2° \mathcal{Y} 32'03	3.97267 AU
minimum elong	3261 Sep 28 06:08	6° \mathcal{A} 24'21	0°59'42		3267 Oct 14 16:41	30° \mathcal{R} \mathcal{H}	
max. Earth dist.	3261 Sep 27 21:58	6° \mathcal{A} 19'56	6.43420 AU	direct	3267 Nov 22 09:28	27° \mathcal{H} 37'17	
morning rise	3261 Oct 11 09:08	9° \mathcal{A} 14'20			3267 Dec 30 13:11	0° \mathcal{Y}	
retrograde	3262 Feb 08 21:42	26° \mathcal{A} 04'05		evening set	3268 Mar 27 00:11	17° \mathcal{Y} 19'38	
opposition	3262 Apr 10 08:36	21° \mathcal{A} 09'12	1°30'29				
min. Earth dist.	3262 Apr 10 22:26	21° \mathcal{A} 04'43	4.45706 AU	conjunction	3268 Apr 09 04:15	20° \mathcal{Y} 31'05	-1°-1'-31
direct	3262 Jun 11 17:26	16° \mathcal{A} 06'36		minimum elong	3268 Apr 09 04:15	20° \mathcal{Y} 31'04	1°01'32
	3262 Sep 29 05:40	0° \mathcal{M}		max. Earth dist.	3268 Apr 10 00:12	20° \mathcal{Y} 43'11	5.94704 AU
evening set	3262 Oct 16 03:42	3° \mathcal{M} 34'14		morning rise	3268 Apr 22 11:23	23° \mathcal{Y} 44'12	
max. Earth dist.	3262 Oct 27 19:05	6° \mathcal{M} 04'50	6.45991 AU		3268 May 19 04:16	0° \mathcal{B}	
				retrograde	3268 Sep 01 20:53	14° \mathcal{B} 27'10	
conjunction	3262 Oct 29 02:45	6° \mathcal{M} 21'57	1°00'59	opposition	3268 Oct 31 15:30	9° \mathcal{B} 24'30	-1°-29'-8
minimum elong	3262 Oct 29 02:46	6° \mathcal{M} 21'58	1°00'59	min. Earth dist.	3268 Oct 30 15:06	9° \mathcal{B} 32'45	3.94621 AU
morning rise	3262 Nov 10 22:56	9° \mathcal{M} 08'23		direct	3268 Dec 28 13:35	4° \mathcal{B} 30'10	
	3262 Dec 09 01:37	15° \mathcal{M}			3269 Mar 23 20:54	15° \mathcal{B}	
retrograde	3263 Mar 11 03:13	25° \mathcal{M} 53'02		evening set	3269 May 03 11:56	24° \mathcal{B} 15'22	
opposition	3263 May 10 21:35	21° \mathcal{M} 00'23	1°20'26				
min. Earth dist.	3263 May 12 02:18	20° \mathcal{M} 51'12	4.44516 AU	conjunction	3269 May 17 00:10	27° \mathcal{B} 29'39	0°-50'-59
direct	3263 Jul 12 15:05	15° \mathcal{M} 58'45		minimum elong	3269 May 17 00:12	27° \mathcal{B} 29'40	0°50'59
	3263 Oct 30 04:56	0° \mathcal{Z}		max. Earth dist.	3269 May 19 00:46	27° \mathcal{B} 58'48	5.96786 AU
evening set	3263 Nov 15 16:50	3° \mathcal{Z} 31'58			3269 May 27 11:09	0° \mathcal{H}	
max. Earth dist.	3263 Nov 26 10:53	5° \mathcal{Z} 53'12	6.41065 AU	morning rise	3269 May 30 15:05	0° \mathcal{H} 45'15	
				retrograde	3269 Oct 09 01:32	21° \mathcal{H} 07'29	
conjunction	3263 Nov 28 11:15	6° \mathcal{Z} 19'47	0°45'51	min. Earth dist.	3269 Dec 06 03:33	16° \mathcal{H} 14'32	4.01235 AU
minimum elong	3263 Nov 28 11:16	6° \mathcal{Z} 19'47	0°45'50	opposition	3269 Dec 07 14:15	16° \mathcal{H} 02'43	0°-56'-4
morning rise	3263 Dec 11 03:40	9° \mathcal{Z} 06'44		direct	3270 Feb 03 16:25	11° \mathcal{H} 05'58	

	3270 Jun 08 01:08	0°♌		evening set	3275 Nov 19 20:26	7°♏47'02	
evening set	3270 Jun 09 22:50	0°♌26'29		max. Earth dist.	3275 Nov 30 13:46	10°♏08'07	6.40338 AU
conjunction	3270 Jun 23 16:09	3°♌38'16	0°-20'-56	conjunction	3275 Dec 02 14:32	10°♏34'57	0°42'38
minimum elong	3270 Jun 23 16:10	3°♌38'17	0°20'57	minimum elong	3275 Dec 02 14:33	10°♏34'58	0°42'38
max. Earth dist.	3270 Jun 26 00:28	4°♌11'05	6.07262 AU	morning rise	3275 Dec 15 06:25	13°♏22'03	
morning rise	3270 Jul 07 11:04	6°♌50'33			3276 Mar 26 17:02	0°♏	
retrograde	3270 Nov 12 20:02	26°♌12'16		retrograde	3276 Apr 14 21:49	0°♏34'16	
min. Earth dist.	3271 Jan 10 01:50	21°♌19'26	4.14369 AU		3276 May 04 03:52	30°♏♌	
opposition	3271 Jan 11 11:14	21°♌08'06	0°-3'-46	opposition	3276 Jun 14 20:33	25°♏42'14	0°42'37
asc. node	3271 Feb 08 05:53	17°♌43'48		min. Earth dist.	3276 Jun 16 09:52	25°♏30'21	4.34905 AU
direct	3271 Mar 11 10:41	16°♌08'29		direct	3276 Aug 16 05:17	20°♏42'30	
	3271 Jun 24 02:33	0°♏			3276 Nov 08 17:57	0°♏	
evening set	3271 Jul 16 01:48	4°♏49'51		evening set	3276 Dec 19 19:31	8°♏41'44	
				max. Earth dist.	3276 Dec 30 08:28	11°♏04'35	6.28191 AU
conjunction	3271 Jul 29 18:38	7°♏54'49	0°15'26	conjunction	3277 Jan 01 11:58	11°♏33'46	0°13'00
minimum elong	3271 Jul 29 18:37	7°♏54'49	0°15'25	minimum elong	3277 Jan 01 11:59	11°♏33'47	0°12'59
behind sun begin	3271 Jul 29 16:51	7°♏53'50		behind sun begin	3277 Jan 01 07:03	11°♏31'00	
behind sun end	3271 Jul 29 20:22	7°♏55'48		behind sun end	3277 Jan 01 16:55	11°♏36'34	
max. Earth dist.	3271 Jul 31 13:30	8°♏18'59	6.21941 AU	morning rise	3277 Jan 14 03:40	14°♏25'39	
morning rise	3271 Aug 12 11:08	10°♏59'19			3277 Apr 07 12:55	0°♏	
	3271 Aug 30 17:29	15°♏		retrograde	3277 May 18 15:35	2°♏31'57	
retrograde	3271 Dec 15 08:09	29°♏11'08		desc. node	3277 May 29 19:31	2°♏20'11	
min. Earth dist.	3272 Feb 12 08:05	24°♏16'31	4.29183 AU		3277 Jun 29 06:01	30°♏♏	
opposition	3272 Feb 13 04:04	24°♏09'50	0°46'22	opposition	3277 Jul 18 11:01	27°♏38'48	0°-6'-30
direct	3272 Apr 13 12:26	19°♏08'08		min. Earth dist.	3277 Jul 19 20:43	27°♏27'59	4.20691 AU
	3272 Jul 14 22:02	0°♏		direct	3277 Sep 17 19:18	22°♏41'19	
evening set	3272 Aug 18 05:05	7°♏11'04			3277 Nov 29 00:26	0°♏	
conjunction	3272 Aug 31 16:39	10°♏07'56	0°45'13	evening set	3278 Jan 21 04:23	11°♏19'37	
minimum elong	3272 Aug 31 16:37	10°♏07'55	0°45'12	max. Earth dist.	3278 Feb 01 08:57	13°♏56'30	6.13107 AU
max. Earth dist.	3272 Sep 01 10:44	10°♏17'50	6.35735 AU	conjunction	3278 Feb 02 22:16	14°♏18'22	0°-21'-59
morning rise	3272 Sep 14 02:18	13°♏03'41		minimum elong	3278 Feb 02 22:15	14°♏18'21	0°22'00
	3272 Dec 30 16:07	0°♏			3278 Feb 05 21:17	15°♏	
retrograde	3273 Jan 14 00:49	0°♏19'55		morning rise	3278 Feb 15 16:35	17°♏17'41	
	3273 Jan 28 09:23	30°♏♏			3278 Apr 16 19:01	0°♏	
opposition	3273 Mar 15 05:54	25°♏22'13	1°19'51	retrograde	3278 Jun 23 19:22	6°♏34'29	
min. Earth dist.	3273 Mar 15 02:51	25°♏23'14	4.40979 AU	opposition	3278 Aug 23 07:00	1°♏38'47	0°-56'-59
direct	3273 May 15 19:56	20°♏19'37		min. Earth dist.	3278 Aug 24 00:23	1°♏33'08	4.05902 AU
	3273 Aug 11 14:25	0°♏			3278 Sep 05 04:24	30°♏♏	
evening set	3273 Sep 19 10:58	7°♏55'34		direct	3278 Oct 22 03:35	26°♏43'46	
conjunction	3273 Oct 02 15:24	10°♏45'58	1°00'53		3278 Dec 06 21:56	0°♏	
minimum elong	3273 Oct 02 15:23	10°♏45'57	1°00'53	evening set	3279 Feb 24 14:47	16°♏03'36	
max. Earth dist.	3273 Oct 02 04:45	10°♏40'13	6.44624 AU	conjunction	3279 Mar 09 12:51	19°♏09'55	0°-50'-58
morning rise	3273 Oct 15 17:10	13°♏35'01		minimum elong	3279 Mar 09 12:49	19°♏09'54	0°50'58
	3274 Jan 29 03:37	0°♏		max. Earth dist.	3279 Mar 09 02:43	19°♏03'49	5.99945 AU
retrograde	3274 Feb 13 01:16	0°♏20'56		morning rise	3279 Mar 22 13:07	22°♏17'34	
	3274 Feb 27 21:38	30°♏♏			3279 Apr 24 22:56	0°♏	
opposition	3274 Apr 14 13:57	25°♏26'29	1°30'26	retrograde	3279 Jul 31 20:03	12°♏38'19	
min. Earth dist.	3274 Apr 15 06:05	25°♏21'17	4.46496 AU	opposition	3279 Sep 29 21:20	7°♏38'52	-1°-29'-12
direct	3274 Jun 16 02:01	20°♏24'02		min. Earth dist.	3279 Sep 29 15:21	7°♏40'51	3.95741 AU
	3274 Sep 11 23:45	0°♏		direct	3279 Nov 27 09:43	2°♏45'06	
evening set	3274 Oct 20 09:24	7°♏49'37		evening set	3280 Apr 01 02:50	22°♏32'14	
max. Earth dist.	3274 Oct 31 19:53	10°♏17'37	6.46291 AU	conjunction	3280 Apr 14 08:20	25°♏44'45	-1°-1'-29
conjunction	3274 Nov 02 07:29	10°♏36'53	0°59'48	minimum elong	3280 Apr 14 08:20	25°♏44'46	1°01'30
minimum elong	3274 Nov 02 07:30	10°♏36'53	0°59'47	max. Earth dist.	3280 Apr 15 10:06	26°♏00'24	5.93745 AU
morning rise	3274 Nov 15 03:02	13°♏22'56		morning rise	3280 Apr 27 16:38	28°♏58'53	
	3274 Nov 22 16:34	15°♏			3280 May 01 22:20	0°♏	
	3275 Mar 06 11:07	0°♏			3280 Jul 13 01:44	15°♏	
retrograde	3275 Mar 15 08:14	0°♏07'27		retrograde	3280 Sep 07 06:07	19°♏45'02	
	3275 Mar 24 04:54	30°♏♏			3280 Nov 03 16:01	15°♏♏	
opposition	3275 May 15 03:31	25°♏14'56	1°17'11	opposition	3280 Nov 05 21:25	14°♏41'57	-1°-26'-26
min. Earth dist.	3275 May 16 10:16	25°♏05'06	4.44298 AU	min. Earth dist.	3280 Nov 04 19:19	14°♏50'47	3.94352 AU
direct	3275 Jul 16 22:10	20°♏13'27		direct	3281 Jan 02 18:24	9°♏47'22	
	3275 Oct 13 07:17	0°♏					

	3281 Mar 01 06:05	15°♄		evening set	3286 Oct 24 16:40	12°♍08'58	
evening set	3281 May 08 19:17	29°♄33'07		max. Earth dist.	3286 Nov 05 00:43	14°♍35'47	6.46024 AU
	3281 May 10 16:21	0°♂					
conjunction	3281 May 22 08:32	2°♂47'41	0°-47'-38	conjunction	3286 Nov 06 14:05	14°♍56'02	0°58'16
minimum elong	3281 May 22 08:34	2°♂47'43	0°47'39	minimum elong	3286 Nov 06 14:06	14°♍56'03	0°58'15
max. Earth dist.	3281 May 24 11:38	3°♂18'17	5.97223 AU	morning rise	3286 Nov 06 21:24	15°♍	
morning rise	3281 Jun 05 00:37	6°♂03'33			3286 Nov 19 08:49	17°♍41'55	
retrograde	3281 Oct 14 03:05	26°♂21'08		retrograde	3287 Jan 22 20:59	0°♄	
min. Earth dist.	3281 Dec 11 03:35	21°♂28'41	4.02323 AU		3287 Mar 19 16:14	4°♄28'15	
opposition	3281 Dec 12 16:16	21°♂16'10	0°-49'-16	opposition	3287 May 16 09:01	30°♍	
direct	3282 Feb 08 18:48	16°♂18'59		min. Earth dist.	3287 May 19 12:32	29°♍35'57	1°13'27
	3282 May 21 10:46	0°♄		direct	3287 May 20 21:08	29°♍25'33	4.43455 AU
evening set	3282 Jun 15 04:51	5°♄35'52			3287 Jul 21 07:28	24°♍34'40	
conjunction	3282 Jun 28 22:32	8°♄47'03	0°-15'-47		3287 Sep 22 17:12	0°♄	
minimum elong	3282 Jun 28 22:34	8°♄47'04	0°15'47	evening set	3287 Nov 24 03:56	12°♄10'42	
max. Earth dist.	3282 Jul 01 06:28	9°♄19'32	6.08895 AU	max. Earth dist.	3287 Dec 04 17:53	14°♄30'28	6.38967 AU
morning rise	3282 Jul 12 17:32	11°♄58'35		conjunction	3287 Dec 06 21:32	14°♄58'59	0°39'03
	3282 Oct 21 12:54	0°♂		minimum elong	3287 Dec 06 21:33	14°♄59'00	0°39'04
retrograde	3282 Nov 17 15:34	1°♂11'01		morning rise	3287 Dec 19 13:22	17°♄46'34	
	3282 Dec 14 12:03	30°♄			3288 Feb 19 19:03	0°♄	
asc. node	3282 Dec 17 20:30	29°♄41'51		retrograde	3288 Apr 19 12:47	5°♄04'57	
min. Earth dist.	3283 Jan 14 22:54	26°♄17'48	4.16329 AU	opposition	3288 Jun 19 10:56	0°♄12'50	0°36'18
opposition	3283 Jan 16 06:44	26°♄07'00	0°03'59	min. Earth dist.	3288 Jun 21 00:51	0°♄00'45	4.33077 AU
direct	3283 Mar 16 11:32	21°♄06'55			3288 Jun 21 03:12	30°♄	
	3283 Jun 04 22:42	0°♂		direct	3288 Aug 20 17:23	25°♄13'20	
evening set	3283 Jul 21 01:58	9°♂42'29		evening set	3288 Oct 18 01:05	0°♄	
conjunction	3283 Aug 03 18:22	12°♂46'19	0°20'20	max. Earth dist.	3288 Dec 24 06:25	13°♄17'44	
minimum elong	3283 Aug 03 18:21	12°♂46'18	0°20'21		3289 Jan 03 21:11	15°♄42'15	6.26058 AU
max. Earth dist.	3283 Aug 05 11:59	13°♂09'39	6.24045 AU	conjunction	3289 Jan 05 23:06	16°♄10'40	0°08'09
	3283 Aug 13 17:08	15°♂		minimum elong	3289 Jan 05 23:06	16°♄10'41	0°08'09
morning rise	3283 Aug 17 10:01	15°♂49'31		behind sun begin	3289 Jan 05 16:01	16°♄06'40	
	3283 Oct 30 00:09	0°♄		behind sun end	3289 Jan 06 06:12	16°♄14'42	
retrograde	3283 Dec 19 18:15	3°♄51'48		morning rise	3289 Jan 18 14:52	19°♄03'30	
	3284 Feb 08 23:53	30°♄			3289 Mar 11 22:14	0°♄	
opposition	3284 Feb 17 16:33	28°♄50'53	0°52'24	desc. node	3289 Apr 08 00:25	4°♄14'06	
min. Earth dist.	3284 Feb 16 21:36	28°♄57'13	4.31223 AU	retrograde	3289 May 23 14:16	7°♄19'30	
direct	3284 Apr 18 04:56	23°♄48'55		opposition	3289 Jul 23 09:05	2°♄26'08	0°-13'-59
	3284 Jun 24 06:08	0°♄		min. Earth dist.	3289 Jul 24 17:10	2°♄15'50	4.18402 AU
evening set	3284 Aug 22 22:05	11°♄46'32			3289 Aug 12 04:40	30°♄	
conjunction	3284 Sep 05 08:32	14°♄42'14	0°48'25	direct	3289 Sep 22 12:04	27°♄29'04	
minimum elong	3284 Sep 05 08:30	14°♄42'13	0°48'24		3289 Nov 02 04:00	0°♄	
max. Earth dist.	3284 Sep 05 21:50	14°♄49'29	6.37525 AU	evening set	3290 Jan 20 14:49	15°♄	
morning rise	3284 Sep 18 17:05	17°♄36'45		max. Earth dist.	3290 Jan 25 22:08	16°♄14'02	
	3284 Nov 21 22:52	0°♄			3290 Feb 06 05:07	18°♄53'10	6.10854 AU
retrograde	3285 Jan 18 08:27	4°♄46'19		conjunction	3290 Feb 07 16:18	19°♄13'54	0°-26'-46
	3285 Mar 18 04:45	30°♄		minimum elong	3290 Feb 07 16:17	19°♄13'53	0°26'47
opposition	3285 Mar 19 14:02	29°♄49'06	1°22'48	morning rise	3290 Feb 20 11:25	22°♄14'30	
min. Earth dist.	3285 Mar 19 14:33	29°♄48'56	4.42379 AU		3290 Mar 26 22:04	0°♄	
direct	3285 May 20 09:15	24°♄46'23		retrograde	3290 Jun 29 03:06	11°♄42'14	
	3285 Jul 21 10:12	0°♄		opposition	3290 Aug 28 12:53	6°♄46'04	-1°-3'-10
evening set	3285 Sep 23 21:37	12°♄19'03		min. Earth dist.	3290 Aug 29 03:06	6°♄41'25	4.03894 AU
max. Earth dist.	3285 Oct 06 10:31	15°♄00'51	6.45502 AU	direct	3290 Oct 27 04:23	1°♄51'20	
conjunction	3285 Oct 07 01:07	15°♄08'43	1°01'45	evening set	3291 Mar 01 16:36	21°♄17'10	
minimum elong	3285 Oct 07 01:06	15°♄08'43	1°01'45	conjunction	3291 Mar 14 15:45	24°♄24'38	0°-53'-50
morning rise	3285 Oct 20 01:52	17°♄57'02		minimum elong	3291 Mar 14 15:43	24°♄24'37	0°53'50
	3285 Dec 22 05:46	0°♍		max. Earth dist.	3291 Mar 14 11:51	24°♄22'17	5.98397 AU
retrograde	3286 Feb 17 06:07	4°♍40'25		morning rise	3291 Mar 27 16:56	27°♄33'26	
	3286 Apr 17 02:15	30°♍			3291 Apr 06 23:09	0°♄	
opposition	3286 Apr 18 20:50	29°♄46'16	1°29'56	retrograde	3291 Aug 06 08:55	18°♄01'24	
min. Earth dist.	3286 Apr 19 14:55	29°♄40'26	4.46816 AU	opposition	3291 Oct 05 07:37	13°♄01'29	-1°-31'-9
direct	3286 Jun 20 10:20	24°♄43'51		min. Earth dist.	3291 Oct 04 22:44	13°♄04'26	3.94869 AU
	3286 Aug 22 04:33	0°♍		direct	3291 Dec 02 16:40	8°♄07'51	
				evening set	3292 Apr 06 11:00	27°♄57'02	

	3292 Apr 14 22:00	0°♄			3297 Jun 18 03:33	0°♅	
				evening set	3297 Sep 28 05:43	16°♅37'28	
conjunction	3292 Apr 19 17:31	1°♄10'09	-1°00'-58				
minimum elong	3292 Apr 19 17:32	1°♄10'10	1°00'59	conjunction	3297 Oct 11 08:10	19°♅26'34	1°02'16
max. Earth dist.	3292 Apr 20 23:13	1°♄28'11	5.93629 AU	minimum elong	3297 Oct 11 08:10	19°♅26'34	1°02'15
morning rise	3292 May 03 03:12	4°♄24'55		max. Earth dist.	3297 Oct 10 12:54	19°♅16'11	6.45972 AU
	3292 Jun 18 19:23	15°♄		morning rise	3297 Oct 24 08:01	22°♅14'21	
retrograde	3292 Sep 12 14:18	25°♄10'06			3297 Dec 01 09:26	0°♄	
min. Earth dist.	3292 Nov 10 00:15	20°♄16'38	3.95044 AU	retrograde	3298 Feb 21 11:44	8°♄56'44	
opposition	3292 Nov 11 05:49	20°♄06'37	-1°-22'-55	opposition	3298 Apr 23 02:19	4°♄02'58	1°29'01
direct	3293 Jan 08 01:31	15°♄11'47		min. Earth dist.	3298 Apr 23 23:52	3°♄56'02	4.46656 AU
	3293 Apr 23 03:41	0°♄			3298 May 29 21:29	30°♄♅	
evening set	3293 May 14 04:15	4°♄54'22		direct	3298 Jun 24 18:18	29°♅00'38	
					3298 Jul 20 18:32	0°♄	
conjunction	3293 May 27 18:23	8°♄08'41	0°-43'-54		3298 Oct 22 04:33	15°♄	
minimum elong	3293 May 27 18:26	8°♄08'42	0°43'56	evening set	3298 Oct 28 22:47	16°♄26'49	
max. Earth dist.	3293 May 29 23:50	8°♄40'34	5.98648 AU	max. Earth dist.	3298 Nov 09 02:32	18°♄51'39	6.45232 AU
morning rise	3293 Jun 10 11:08	11°♄24'09					
	3293 Sep 18 02:14	0°♄		conjunction	3298 Nov 10 19:36	19°♄13'57	0°56'27
retrograde	3293 Oct 19 04:14	1°♄33'12		minimum elong	3298 Nov 10 19:37	19°♄13'58	0°56'27
	3293 Nov 19 00:14	30°♄♄		morning rise	3298 Nov 23 13:52	21°♄59'58	
min. Earth dist.	3293 Dec 16 05:25	26°♄40'31	4.04291 AU		3299 Jan 01 14:01	0°♄	
opposition	3293 Dec 17 17:37	26°♄28'10	0°-42'-9	retrograde	3299 Mar 24 00:54	8°♄49'53	
direct	3294 Feb 14 00:15	21°♄30'34		opposition	3299 May 23 21:44	3°♄57'41	1°09'21
	3294 May 01 19:55	0°♄		min. Earth dist.	3299 May 25 07:14	3°♄46'59	4.42093 AU
evening set	3294 Jun 20 09:13	10°♄40'52			3299 Jun 28 21:01	30°♄♄	
				direct	3299 Jul 25 14:45	28°♄56'34	
conjunction	3294 Jul 04 03:06	13°♄51'03	0°-10'-37		3299 Aug 21 11:28	0°♄	
minimum elong	3294 Jul 04 03:06	13°♄51'03	0°10'38	evening set	3299 Nov 28 11:34	16°♄36'36	
behind sun begin	3294 Jul 03 20:42	13°♄47'23		max. Earth dist.	3299 Dec 09 01:54	18°♄57'09	6.37146 AU
behind sun end	3294 Jul 04 09:30	13°♄54'44					
max. Earth dist.	3294 Jul 06 11:23	14°♄23'32	6.11226 AU	conjunction	3299 Dec 11 05:02	19°♄25'31	0°35'16
morning rise	3294 Jul 17 21:49	17°♄01'23		minimum elong	3299 Dec 11 05:03	19°♄25'32	0°35'15
	3294 Sep 18 20:32	0°♄		morning rise	3299 Dec 23 20:37	22°♄13'45	
asc. node	3294 Oct 27 11:17	4°♄58'01			3300 Jan 29 17:29	0°♄	
retrograde	3294 Nov 22 06:34	6°♄02'25		retrograde	3300 Apr 25 05:27	9°♄39'50	
opposition	3295 Jan 20 22:59	0°♄58'47	0°11'29	opposition	3300 Jun 25 03:03	4°♄47'40	0°29'44
min. Earth dist.	3295 Jan 19 15:55	1°♄09'17	4.18778 AU	min. Earth dist.	3300 Jun 26 17:02	4°♄35'34	4.30903 AU
	3295 Jan 28 05:57	30°♄♄			3300 Aug 15 01:38	30°♄♄	
direct	3295 Mar 21 07:45	25°♄58'23		direct	3300 Aug 26 06:12	29°♄48'31	
	3295 May 12 06:25	0°♄			3300 Sep 06 10:17	0°♄	
evening set	3295 Jul 25 22:47	14°♄27'06		evening set	3300 Dec 29 19:15	17°♄59'00	
	3295 Jul 28 10:03	15°♄		max. Earth dist.	3301 Jan 09 10:16	20°♄24'31	6.23711 AU
conjunction	3295 Aug 08 14:22	17°♄29'36	0°24'57	conjunction	3301 Jan 11 11:53	20°♄52'55	0°03'13
minimum elong	3295 Aug 08 14:20	17°♄29'35	0°24'57	minimum elong	3301 Jan 11 11:53	20°♄52'55	0°03'14
max. Earth dist.	3295 Aug 10 02:51	17°♄49'57	6.26398 AU	behind sun begin	3301 Jan 11 03:56	20°♄48'24	
morning rise	3295 Aug 22 05:15	20°♄31'25		behind sun end	3301 Jan 11 19:49	20°♄57'26	
	3295 Oct 06 20:15	0°♄		morning rise	3301 Jan 24 04:08	23°♄46'52	
retrograde	3295 Dec 24 03:12	8°♄24'12		desc. node	3301 Feb 16 04:28	28°♄54'32	
min. Earth dist.	3296 Feb 21 10:31	3°♄28'55	4.33289 AU		3301 Feb 21 07:04	0°♄	
opposition	3296 Feb 22 01:53	3°♄23'48	0°57'53	retrograde	3301 May 29 16:07	12°♄13'18	
	3296 Mar 21 05:49	30°♄♄		opposition	3301 Jul 29 09:32	7°♄19'34	0°-21'-29
direct	3296 Apr 22 20:01	28°♄21'36		min. Earth dist.	3301 Jul 30 15:05	7°♄10'03	4.16058 AU
	3296 May 25 19:31	0°♄		direct	3301 Sep 28 07:17	2°♄22'50	
evening set	3296 Aug 27 11:06	16°♄14'14			3302 Jan 04 07:56	15°♄	
				evening set	3302 Jan 31 18:08	21°♄14'24	
conjunction	3296 Sep 09 20:44	19°♄08'54	0°51'13	max. Earth dist.	3302 Feb 12 07:12	23°♄57'48	6.08742 AU
minimum elong	3296 Sep 09 20:42	19°♄08'53	0°51'13				
max. Earth dist.	3296 Sep 10 06:49	19°♄14'23	6.39144 AU	conjunction	3302 Feb 13 12:59	24°♄15'25	0°-31'-24
morning rise	3296 Sep 23 04:02	22°♄02'17		minimum elong	3302 Feb 13 12:57	24°♄15'24	0°31'25
	3296 Oct 31 21:49	0°♄		morning rise	3302 Feb 26 08:38	27°♄17'12	
retrograde	3297 Jan 22 11:43	9°♄06'19			3302 Mar 09 23:58	0°♄	
opposition	3297 Mar 23 19:26	4°♄09'36	1°25'12	retrograde	3302 Jul 05 12:43	16°♄54'49	
min. Earth dist.	3297 Mar 23 22:00	4°♄08'45	4.43466 AU	opposition	3302 Sep 03 20:37	11°♄58'09	-1°-8'-55
	3297 Apr 30 13:48	30°♄♄		min. Earth dist.	3302 Sep 04 07:52	11°♄54'28	4.02228 AU
direct	3297 May 24 16:56	29°♄06'52		direct	3302 Nov 02 07:18	7°♄03'43	

evening set	3303 Mar 07 19:58	26° Υ 33'49		conjunction	3308 Sep 15 08:24	23° Υ 33'54	0°53'44
				minimum elong	3308 Sep 15 08:23	23° Υ 33'54	0°53'45
conjunction	3303 Mar 20 19:51	29° Υ 42'09	0°-56'-16	max. Earth dist.	3308 Sep 15 12:38	23° Υ 36'12	6.40392 AU
minimum elong	3303 Mar 20 19:49	29° Υ 42'08	0°56'17	morning rise	3308 Sep 28 14:47	26° Υ 26'25	
max. Earth dist.	3303 Mar 20 20:00	29° Υ 42'14	5.97316 AU		3308 Oct 15 08:56	0° Ω	
	3303 Mar 22 01:21	0° Υ		retrograde	3309 Jan 27 17:45	13° Ω 26'15	
morning rise	3303 Apr 02 22:17	2° Υ 51'58		opposition	3309 Mar 29 01:21	8° Ω 30'01	1°27'10
retrograde	3303 Aug 12 19:03	23° Υ 24'37		min. Earth dist.	3309 Mar 29 07:36	8° Ω 27'59	4.44203 AU
opposition	3303 Oct 11 17:39	18° Υ 24'05	-1°-32'-17	direct	3309 May 30 02:31	3° Ω 27'17	
min. Earth dist.	3303 Oct 11 04:17	18° Υ 28'33	3.94514 AU	evening set	3309 Oct 03 14:08	20° Ω 56'52	
direct	3303 Dec 08 23:18	13° Υ 30'23					
	3304 Mar 29 20:06	0° Υ		conjunction	3309 Oct 16 15:53	23° Ω 45'36	1°02'26
evening set	3304 Apr 12 18:38	3° Υ 19'30		minimum elong	3309 Oct 16 15:53	23° Ω 45'35	1°02'25
				max. Earth dist.	3309 Oct 15 17:54	23° Ω 33'44	6.46137 AU
conjunction	3304 Apr 26 02:17	6° Υ 32'56	0°-59'-57	morning rise	3309 Oct 29 14:44	26° Ω 32'58	
minimum elong	3304 Apr 26 02:18	6° Υ 32'57	0°59'57		3309 Nov 14 22:49	0° Ω	
max. Earth dist.	3304 Apr 27 12:45	6° Υ 53'50	5.94013 AU	retrograde	3310 Feb 26 17:00	13° Ω 15'24	
morning rise	3304 May 09 12:57	9° Υ 47'58		opposition	3310 Apr 28 09:09	8° Ω 21'59	1°27'35
	3304 May 31 14:42	15° Υ		min. Earth dist.	3310 Apr 29 07:54	8° Ω 14'40	4.46265 AU
	3304 Sep 01 11:11	0° Π		direct	3310 Jun 30 00:37	3° Ω 19'50	
retrograde	3304 Sep 18 21:08	0° Π 29'56			3310 Oct 06 12:29	15° Ω	
	3304 Oct 06 04:12	30° Υ		evening set	3310 Nov 03 06:05	20° Ω 47'41	
min. Earth dist.	3304 Nov 16 05:33	25° Υ 36'24	3.96111 AU	max. Earth dist.	3310 Nov 14 07:13	23° Ω 11'30	6.44314 AU
opposition	3304 Nov 17 12:06	25° Υ 26'02	-1°-18'-44				
direct	3305 Jan 14 09:07	20° Υ 30'51		conjunction	3310 Nov 16 02:14	23° Ω 34'56	0°54'17
	3305 Apr 05 01:45	0° Π		minimum elong	3310 Nov 16 02:16	23° Ω 34'57	0°54'18
evening set	3305 May 20 11:16	10° Π 09'06		morning rise	3310 Nov 28 20:00	26° Ω 21'08	
					3310 Dec 15 22:34	0° Υ	
conjunction	3305 Jun 03 02:15	13° Π 23'01	0°-39'-53	retrograde	3311 Mar 29 12:57	13° Υ 15'10	
minimum elong	3305 Jun 03 02:17	13° Π 23'03	0°39'53	opposition	3311 May 29 08:53	8° Υ 23'10	1°04'48
max. Earth dist.	3305 Jun 05 10:19	13° Π 56'18	6.00288 AU	min. Earth dist.	3311 May 30 20:15	8° Υ 11'54	4.40707 AU
morning rise	3305 Jun 16 19:32	16° Π 37'57		direct	3311 Jul 31 01:25	3° Υ 22'22	
	3305 Aug 18 14:43	0° Υ		evening set	3311 Dec 03 20:49	21° Υ 06'24	
retrograde	3305 Oct 25 02:32	6° Υ 37'40		max. Earth dist.	3311 Dec 14 09:42	23° Υ 26'46	6.35407 AU
min. Earth dist.	3305 Dec 22 03:31	1° Υ 45'09	4.06320 AU				
opposition	3305 Dec 23 15:58	1° Υ 32'44	0°-34'-50	conjunction	3311 Dec 16 13:59	23° Υ 55'54	0°31'12
	3306 Jan 04 05:11	30° Υ		minimum elong	3311 Dec 16 14:01	23° Υ 55'55	0°31'12
direct	3306 Feb 20 01:10	26° Π 34'45		morning rise	3311 Dec 29 05:35	26° Υ 44'50	
	3306 Apr 07 17:13	0° Υ			3312 Jan 13 02:09	0° Υ	
evening set	3306 Jun 26 11:15	15° Υ 38'45		retrograde	3312 Apr 29 23:08	14° Υ 18'25	
				opposition	3312 Jun 29 20:38	9° Υ 26'09	0°22'52
conjunction	3306 Jul 10 04:58	18° Υ 47'53	0°-5'-28	min. Earth dist.	3312 Jul 01 09:07	9° Υ 14'30	4.28943 AU
minimum elong	3306 Jul 10 04:57	18° Υ 47'53	0°05'29	direct	3312 Aug 30 19:15	4° Υ 27'23	
behind sun begin	3306 Jul 09 20:54	18° Υ 43'17		desc. node	3312 Dec 26 09:11	20° Υ 54'40	
behind sun end	3306 Jul 10 13:01	18° Υ 52'29		evening set	3313 Jan 03 08:56	22° Υ 43'12	
max. Earth dist.	3306 Jul 12 09:50	19° Υ 18'15	6.13451 AU	max. Earth dist.	3313 Jan 14 03:55	25° Υ 11'37	6.21712 AU
morning rise	3306 Jul 23 23:35	21° Υ 57'07					
	3306 Aug 29 22:43	0° Ω		conjunction	3313 Jan 16 01:48	25° Υ 38'01	0°-1'-52
asc. node	3306 Sep 07 07:13	1° Ω 39'31		minimum elong	3313 Jan 16 01:46	25° Υ 38'00	0°01'53
retrograde	3306 Nov 27 20:02	10° Ω 47'45		behind sun begin	3313 Jan 15 17:47	25° Υ 33'25	
min. Earth dist.	3307 Jan 25 08:35	5° Ω 54'11	4.20986 AU	behind sun end	3313 Jan 16 09:46	25° Υ 42'34	
opposition	3307 Jan 26 13:19	5° Ω 44'28	0°18'47	morning rise	3313 Jan 28 18:10	28° Υ 32'53	
direct	3307 Mar 27 03:13	0° Ω 43'44			3313 Feb 04 03:10	0° \approx	
	3307 Jul 12 19:49	15° Ω			3313 Apr 27 04:10	15° \approx	
evening set	3307 Jul 31 17:40	19° Ω 06'43		retrograde	3313 Jun 03 18:48	17° \approx 08'33	
					3313 Jul 11 15:19	15° Υ	
conjunction	3307 Aug 14 08:43	22° Ω 08'05	0°29'22	opposition	3313 Aug 03 10:35	12° \approx 14'32	0°-28'-51
minimum elong	3307 Aug 14 08:41	22° Ω 08'04	0°29'22	min. Earth dist.	3313 Aug 04 14:24	12° \approx 05'34	4.14180 AU
max. Earth dist.	3307 Aug 15 18:44	22° Ω 27'00	6.28426 AU	direct	3313 Oct 03 04:11	7° \approx 18'14	
morning rise	3307 Aug 27 22:30	25° Ω 08'37			3313 Dec 15 18:18	15° \approx	
	3307 Sep 19 11:25	0° Υ		evening set	3314 Feb 05 13:52	26° \approx 14'38	
retrograde	3307 Dec 29 10:31	12° Υ 53'20		max. Earth dist.	3314 Feb 17 06:15	29° \approx 00'37	6.07148 AU
opposition	3308 Feb 27 10:15	7° Υ 53'31	1°03'00				
min. Earth dist.	3308 Feb 26 21:00	7° Υ 57'55	4.34994 AU	conjunction	3314 Feb 18 09:03	29° \approx 16'31	0°-35'-46
direct	3308 Apr 28 07:59	2° Υ 51'14		minimum elong	3314 Feb 18 09:01	29° \approx 16'30	0°35'47
evening set	3308 Sep 01 23:55	20° Υ 40'11			3314 Feb 21 10:18	0° Υ	
				morning rise	3314 Mar 03 05:32	2° Υ 19'19	

retrograde	3314 Jul 10 18:16	22° κ 04'47		min. Earth dist.	3320 Mar 02 06:35	12° η 22'40	4.36286 AU
opposition	3314 Sep 09 02:37	17° κ 07'36	-1°-14'00	direct	3320 May 02 18:31	7° η 16'44	
min. Earth dist.	3314 Sep 09 09:27	17° κ 05'21	4.01093 AU	evening set	3320 Sep 06 10:53	25° η 03'09	
direct	3314 Nov 07 08:33	12° κ 13'23					
	3315 Mar 05 12:12	0° γ		conjunction	3320 Sep 19 18:38	27° η 56'11	0°55'53
evening set	3315 Mar 12 21:22	1° γ 45'57		minimum elong	3320 Sep 19 18:37	27° η 56'10	0°55'53
				max. Earth dist.	3320 Sep 19 20:27	27° η 57'10	6.41280 AU
conjunction	3315 Mar 25 22:11	4° γ 54'56	0°-58'-11		3320 Sep 29 07:03	0° ♎	
minimum elong	3315 Mar 25 22:10	4° γ 54'55	0°58'13	morning rise	3320 Oct 02 23:50	0° ♎ 47'54	
max. Earth dist.	3315 Mar 26 04:11	4° γ 58'34	5.96743 AU	retrograde	3321 Jan 31 21:51	17° ♎ 44'39	
morning rise	3315 Apr 08 01:28	8° γ 05'24		opposition	3321 Apr 02 06:49	12° ♎ 48'53	1°28'36
retrograde	3315 Aug 18 02:58	28° γ 40'40		min. Earth dist.	3321 Apr 02 14:46	12° ♎ 46'17	4.44656 AU
min. Earth dist.	3315 Oct 16 08:42	23° γ 44'43	3.94576 AU	direct	3321 Jun 03 09:44	7° ♎ 46'13	
opposition	3315 Oct 17 00:05	23° γ 39'34	-1°-32'-35	evening set	3321 Oct 07 22:02	25° ♎ 15'16	
direct	3315 Dec 14 04:45	18° γ 45'45					
	3316 Mar 11 20:31	0° ♏		conjunction	3321 Oct 20 22:47	28° ♎ 03'38	1°02'14
evening set	3316 Apr 17 22:45	8° ♏ 33'29		minimum elong	3321 Oct 20 22:47	28° ♎ 03'38	1°02'13
				max. Earth dist.	3321 Oct 19 20:31	27° ♎ 49'27	6.46120 AU
conjunction	3316 May 01 07:29	11° ♏ 47'05	0°-58'-27		3321 Oct 29 22:33	0° ♏	
minimum elong	3316 May 01 07:31	11° ♏ 47'06	0°58'28	morning rise	3321 Nov 02 20:58	0° ♏ 50'44	
max. Earth dist.	3316 May 02 22:01	12° ♏ 10'23	5.94689 AU		3322 Jan 20 14:19	15° ♏	
morning rise	3316 May 14 19:11	15° ♏ 02'16		retrograde	3322 Mar 03 00:36	17° ♏ 33'35	
	3316 May 14 15:25	15° ♏			3322 Apr 13 17:33	15° ♏	
	3316 Jul 24 04:24	0° ♐		opposition	3322 May 02 16:09	12° ♏ 40'25	1°25'39
retrograde	3316 Sep 23 22:56	5° ♐ 39'42		min. Earth dist.	3322 May 03 17:31	12° ♏ 32'16	4.45794 AU
min. Earth dist.	3316 Nov 21 05:32	0° ♐ 46'29	3.97339 AU	direct	3322 Jul 04 09:22	7° ♏ 38'22	
opposition	3316 Nov 22 13:42	0° ♐ 35'34	-1°-14'-3		3322 Sep 17 19:03	15° ♏	
	3316 Nov 26 22:44	30° ♏		evening set	3322 Nov 07 12:49	25° ♏ 07'40	
direct	3317 Jan 19 10:46	25° ♏ 40'03		max. Earth dist.	3322 Nov 18 12:26	27° ♏ 30'59	6.43419 AU
	3317 Mar 12 17:04	0° ♐					
evening set	3317 May 25 14:00	15° ♐ 13'44		conjunction	3322 Nov 20 08:34	27° ♏ 55'04	0°51'49
				minimum elong	3322 Nov 20 08:35	27° ♏ 55'05	0°51'49
conjunction	3317 Jun 08 05:30	18° ♐ 27'10	0°-35'-41		3322 Nov 29 21:34	0° ♐	
minimum elong	3317 Jun 08 05:32	18° ♐ 27'11	0°35'42	morning rise	3322 Dec 03 01:46	0° ♐ 41'26	
max. Earth dist.	3317 Jun 10 12:26	18° ♐ 59'38	6.01927 AU	retrograde	3323 Apr 02 22:18	17° ♐ 39'17	
morning rise	3317 Jun 21 23:25	21° ♐ 41'33		opposition	3323 Jun 02 19:46	12° ♐ 47'15	0°59'51
	3317 Jul 29 00:02	0° ♑		min. Earth dist.	3323 Jun 04 06:44	12° ♐ 36'07	4.39434 AU
retrograde	3317 Oct 29 19:48	11° ♑ 32'27		direct	3323 Aug 04 09:34	7° ♐ 46'41	
min. Earth dist.	3317 Dec 26 22:27	6° ♑ 39'44	4.08183 AU	evening set	3323 Dec 08 05:04	25° ♐ 33'56	
opposition	3317 Dec 28 10:04	6° ♑ 27'35	0°-27'-35	max. Earth dist.	3323 Dec 18 18:36	27° ♐ 55'11	6.33838 AU
direct	3318 Feb 24 22:57	1° ♑ 29'08					
evening set	3318 Jul 01 09:15	20° ♑ 27'44		conjunction	3323 Dec 20 21:59	28° ♐ 23'56	0°26'58
				minimum elong	3323 Dec 20 22:00	28° ♐ 23'57	0°26'58
conjunction	3318 Jul 15 03:06	23° ♑ 36'01	0°00'-24		3323 Dec 28 01:42	0° ♑	
minimum elong	3318 Jul 15 03:04	23° ♑ 36'00	0°00'25	morning rise	3324 Jan 02 13:28	1° ♑ 13'27	
behind sun begin	3318 Jul 14 18:43	23° ♑ 31'15		retrograde	3324 May 04 17:18	18° ♑ 53'59	
behind sun end	3318 Jul 15 11:25	23° ♑ 40'45		opposition	3324 Jul 04 13:38	14° ♑ 01'33	0°15'53
max. Earth dist.	3318 Jul 17 06:43	24° ♑ 05'32	6.15401 AU	min. Earth dist.	3324 Jul 06 02:24	13° ♑ 49'49	4.27133 AU
asc. node	3318 Jul 19 13:26	24° ♑ 36'48		direct	3324 Sep 04 10:05	9° ♑ 03'05	
morning rise	3318 Jul 28 21:12	26° ♑ 44'10		desc. node	3324 Nov 05 02:22	14° ♑ 26'09	
	3318 Aug 12 11:22	0° ♒		evening set	3325 Jan 07 21:20	27° ♑ 23'34	
	3318 Nov 16 01:51	15° ♒		max. Earth dist.	3325 Jan 18 17:11	29° ♑ 53'09	6.19795 AU
retrograde	3318 Dec 02 07:33	15° ♒ 25'43			3325 Jan 19 05:03	0° ♒	
	3318 Dec 18 08:54	15° ♒					
min. Earth dist.	3319 Jan 29 21:54	10° ♒ 31'51	4.22841 AU	conjunction	3325 Jan 20 14:16	0° ♒ 19'11	0°-6'-50
opposition	3319 Jan 31 00:29	10° ♒ 22'54	0°25'41	minimum elong	3325 Jan 20 14:15	0° ♒ 19'11	0°06'52
direct	3319 Mar 31 18:18	5° ♒ 21'54		behind sun begin	3325 Jan 20 06:49	0° ♒ 14'54	
	3319 Jun 24 23:57	15° ♒		behind sun end	3325 Jan 20 21:42	0° ♒ 23'27	
evening set	3319 Aug 05 10:01	23° ♒ 40'27		morning rise	3325 Feb 02 07:06	3° ♒ 15'01	
					3325 Mar 30 03:10	15° ♒	
conjunction	3319 Aug 19 00:15	26° ♒ 40'50	0°33'28	retrograde	3325 Jun 08 17:38	21° ♒ 59'44	
minimum elong	3319 Aug 19 00:14	26° ♒ 40'49	0°33'27	opposition	3325 Aug 08 10:03	17° ♒ 05'20	0°-36'00
max. Earth dist.	3319 Aug 20 05:22	26° ♒ 56'57	6.30045 AU	min. Earth dist.	3325 Aug 09 10:46	16° ♒ 57'21	4.12293 AU
morning rise	3319 Sep 01 13:21	29° ♒ 40'20			3325 Aug 25 02:47	15° ♒	
	3319 Sep 03 01:12	0° ♓		direct	3325 Oct 07 22:05	12° ♒ 09'21	
retrograde	3320 Jan 02 16:20	17° ♓ 18'32			3325 Nov 19 21:43	15° ♒	
opposition	3320 Mar 02 17:06	12° ♓ 19'11	1°07'37		3326 Feb 05 08:02	0° ♓	

evening set	3326 Feb 10 08:35	1° κ 10'57		conjunction	3331 Aug 23 18:19	1° η 20'05	0°37'30
max. Earth dist.	3326 Feb 22 06:08	4° κ 00'33	6.05456 AU	minimum elong	3331 Aug 23 18:18	1° η 20'03	0°37'30
				max. Earth dist.	3331 Aug 24 20:52	1° η 34'43	6.31886 AU
conjunction	3326 Feb 23 04:22	4° κ 13'48	0°-39'-52	morning rise	3331 Sep 06 06:17	4° η 18'22	
minimum elong	3326 Feb 23 04:20	4° κ 13'47	0°39'53	retrograde	3332 Jan 07 00:35	21° η 49'14	
morning rise	3326 Mar 08 01:30	7° κ 17'39		opposition	3332 Mar 07 02:06	16° η 50'28	1°11'58
retrograde	3326 Jul 16 02:01	27° κ 11'36		min. Earth dist.	3332 Mar 06 17:49	16° η 53'12	4.37943 AU
opposition	3326 Sep 14 07:41	22° κ 13'55	-1°-18'-33	direct	3332 May 07 08:00	11° η 48'02	
min. Earth dist.	3326 Sep 14 12:29	22° κ 12'20	3.99755 AU	evening set	3332 Sep 10 23:31	29° η 30'27	
direct	3326 Nov 12 10:33	17° κ 19'51			3332 Sep 13 06:28	0° ε	
	3327 Feb 16 05:23	0° γ					
evening set	3327 Mar 17 22:30	6° γ 56'01		conjunction	3332 Sep 24 06:07	2° ε 22'31	0°57'48
				minimum elong	3332 Sep 24 06:05	2° ε 22'30	0°57'47
conjunction	3327 Mar 31 00:19	10° γ 05'52	0°-59'-41	max. Earth dist.	3332 Sep 24 03:38	2° ε 21'10	6.42639 AU
minimum elong	3327 Mar 31 00:18	10° γ 05'51	0°59'42	morning rise	3332 Oct 07 10:18	5° ε 13'16	
max. Earth dist.	3327 Mar 31 10:43	10° γ 12'10	5.95881 AU	retrograde	3333 Feb 05 02:47	22° ε 05'22	
morning rise	3327 Apr 13 04:47	13° γ 17'15		opposition	3333 Apr 06 13:02	17° ε 09'58	1°29'36
	3327 Jul 03 12:36	0° δ		min. Earth dist.	3333 Apr 06 23:19	17° ε 06'38	4.45662 AU
retrograde	3327 Aug 23 10:26	3° δ 56'14		direct	3333 Jun 07 19:20	12° ε 07'20	
	3327 Oct 14 02:18	30° δ 0'		evening set	3333 Oct 12 05:21	29° ε 33'52	
min. Earth dist.	3327 Oct 21 11:56	29° γ 00'54	3.94315 AU		3333 Oct 14 06:10	0° μ	
opposition	3327 Oct 22 06:28	28° γ 54'41	-1°-32'-12	max. Earth dist.	3333 Oct 24 01:50	2° μ 06'50	6.46702 AU
direct	3327 Dec 19 07:24	24° γ 00'48					
	3328 Feb 19 09:00	0° δ		conjunction	3333 Oct 25 05:21	2° μ 21'41	1°01'44
evening set	3328 Apr 23 04:08	13° δ 48'46		minimum elong	3333 Oct 25 05:21	2° μ 21'41	1°01'45
	3328 Apr 28 02:33	15° δ		morning rise	3333 Nov 07 02:27	5° μ 08'11	
					3333 Dec 26 18:08	15° μ	
conjunction	3328 May 06 13:51	17° δ 02'43	0°-56'-29	retrograde	3334 Mar 07 04:01	21° μ 49'41	
minimum elong	3328 May 06 13:52	17° δ 02'44	0°56'30	opposition	3334 May 06 22:06	16° μ 56'43	1°23'19
max. Earth dist.	3328 May 08 06:19	17° δ 27'10	5.95031 AU	min. Earth dist.	3334 May 08 00:33	16° μ 48'15	4.45914 AU
morning rise	3328 May 20 02:44	20° δ 18'14			3334 May 22 12:31	15° κ 00'	
	3328 Jul 01 19:27	0° ι		direct	3334 Jul 08 15:56	11° μ 54'52	
retrograde	3328 Sep 29 01:48	10° ι 52'33			3334 Aug 24 16:41	15° μ	
min. Earth dist.	3328 Nov 26 06:59	5° ι 59'32	3.98237 AU	evening set	3334 Nov 11 17:27	29° μ 23'37	
opposition	3328 Nov 27 16:25	5° ι 48'10	-1°-8'-47		3334 Nov 14 12:32	0° ξ	
direct	3329 Jan 24 14:45	0° ι 52'17		max. Earth dist.	3334 Nov 22 13:40	1° ξ 45'20	6.43050 AU
evening set	3329 May 30 19:07	20° ι 22'57					
				conjunction	3334 Nov 24 12:24	2° ξ 10'52	0°49'09
conjunction	3329 Jun 13 11:28	23° ι 36'05	0°-31'-9	minimum elong	3334 Nov 24 12:26	2° ξ 10'53	0°49'09
minimum elong	3329 Jun 13 11:30	23° ι 36'06	0°31'10	morning rise	3334 Dec 07 05:14	4° ξ 57'12	
max. Earth dist.	3329 Jun 15 20:12	24° ι 09'30	6.03311 AU	retrograde	3335 Apr 07 06:49	21° ξ 57'28	
morning rise	3329 Jun 27 05:41	26° ι 49'59		opposition	3335 Jun 07 04:10	17° ξ 05'26	0°54'44
	3329 Jul 10 23:06	0° σ		min. Earth dist.	3335 Jun 08 17:09	16° ξ 53'39	4.38568 AU
retrograde	3329 Nov 03 17:26	16° σ 32'53		direct	3335 Aug 08 18:21	12° ξ 05'01	
min. Earth dist.	3329 Dec 31 19:45	11° σ 40'02	4.09889 AU	evening set	3335 Dec 12 10:00	29° ξ 54'17	
opposition	3330 Jan 02 06:25	11° σ 28'14	0°-19'-59		3335 Dec 12 20:17	0° ζ	
direct	3330 Mar 01 22:25	6° σ 29'28		max. Earth dist.	3335 Dec 22 22:39	2° ζ 15'28	6.32532 AU
asc. node	3330 May 29 00:14	17° σ 03'03					
evening set	3330 Jul 06 10:20	25° σ 23'21		conjunction	3335 Dec 25 02:47	2° ζ 44'43	0°22'45
				minimum elong	3335 Dec 25 02:48	2° ζ 44'43	0°22'46
conjunction	3330 Jul 20 03:55	28° σ 30'44	0°04'49	morning rise	3336 Jan 06 18:10	5° ζ 34'43	
minimum elong	3330 Jul 20 03:54	28° σ 30'43	0°04'49	retrograde	3336 May 09 05:02	23° ζ 21'32	
behind sun begin	3330 Jul 19 19:44	28° σ 26'06		opposition	3336 Jul 09 02:40	18° ζ 28'51	0°09'03
behind sun end	3330 Jul 20 12:03	28° σ 35'20		min. Earth dist.	3336 Jul 10 14:22	18° ζ 17'27	4.25453 AU
max. Earth dist.	3330 Jul 22 05:08	28° σ 58'45	6.17284 AU	direct	3336 Sep 08 19:03	13° ζ 30'37	
	3330 Jul 26 16:54	0° Ω		desc. node	3336 Sep 17 01:06	13° ζ 36'57	
morning rise	3330 Aug 02 21:47	1° Ω 37'53			3337 Jan 03 19:28	0° ≈	
	3330 Oct 08 12:13	15° Ω		evening set	3337 Jan 12 06:12	1° ≈ 55'43	
retrograde	3330 Dec 06 19:27	20° Ω 10'32		max. Earth dist.	3337 Jan 23 03:47	4° ≈ 26'55	6.17868 AU
opposition	3331 Feb 04 14:19	15° Ω 08'09	0°32'37				
min. Earth dist.	3331 Feb 03 12:46	15° Ω 16'46	4.24758 AU	conjunction	3337 Jan 24 23:18	4° ≈ 52'10	0°-11'-33
	3331 Feb 05 14:33	15° κ 00'		minimum elong	3337 Jan 24 23:17	4° ≈ 52'10	0°11'34
direct	3331 Apr 05 11:38	10° Ω 06'58		behind sun begin	3337 Jan 24 17:29	4° ≈ 48'49	
	3331 Jun 02 17:38	15° Ω		behind sun end	3337 Jan 25 05:05	4° ≈ 55'31	
evening set	3331 Aug 10 04:49	28° Ω 20'48		morning rise	3337 Feb 06 16:30	7° ≈ 48'58	
	3331 Aug 17 17:15	0° η			3337 Mar 10 23:08	15° ≈	
				retrograde	3337 Jun 13 16:00	26° ≈ 43'09	

opposition	3337 Aug 13 06:07	21° 48 '21	0°-42'-41			3343 Apr 01 17:54	15° R Ω	
min. Earth dist.	3337 Aug 14 06:17	21° 48 '031	4.10242 AU	direct		3343 Apr 10 07:53	14° Ω 52'51	
direct	3337 Oct 12 14:54	16° 45 '234				3343 Apr 18 22:45	15° Ω	
	3338 Jan 19 23:48	0° κ				3343 Aug 01 00:40	0° η	
evening set	3338 Feb 15 00:15	6° κ 00'17		evening set		3343 Aug 15 00:08	3° η 01'13	
conjunction	3338 Feb 27 20:45	9° κ 04'19	0°-43'-34	conjunction		3343 Aug 28 12:46	5° η 59'19	0°41'18
minimum elong	3338 Feb 27 20:43	9° κ 04'18	0°43'35	minimum elong		3343 Aug 28 12:44	5° η 59'18	0°41'18
max. Earth dist.	3338 Feb 27 01:04	8° κ 52'33	6.03467 AU	max. Earth dist.		3343 Aug 29 12:10	6° η 12'11	6.33800 AU
morning rise	3338 Mar 12 18:49	12° κ 09'26		morning rise		3343 Sep 10 23:41	8° η 56'22	
	3338 Jun 13 09:03	0° γ		retrograde		3344 Jan 11 07:23	26° η 19'38	
retrograde	3338 Jul 21 06:02	2° γ 13'05		opposition		3344 Mar 11 11:24	21° η 21'16	1°15'53
	3338 Aug 28 06:17	30° R κ		min. Earth dist.		3344 Mar 11 04:55	21° η 23'25	4.39573 AU
opposition	3338 Sep 19 09:58	27° κ 14'54	-1°-22'-27	direct		3344 May 11 20:58	16° η 18'43	
min. Earth dist.	3338 Sep 19 11:38	27° κ 14'21	3.98043 AU			3344 Aug 27 17:51	0° Δ	
direct	3338 Nov 17 06:58	22° κ 20'57		evening set		3344 Sep 15 12:01	3° Δ 57'13	
	3339 Jan 27 19:45	0° γ						
evening set	3339 Mar 22 22:29	12° γ 02'33		conjunction		3344 Sep 28 17:36	6° Δ 48'23	0°59'22
				minimum elong		3344 Sep 28 17:35	6° Δ 48'22	0°59'22
conjunction	3339 Apr 05 01:21	15° γ 13'29	-1°00'-41	max. Earth dist.		3344 Sep 28 11:46	6° Δ 45'14	6.43842 AU
minimum elong	3339 Apr 05 01:20	15° γ 13'29	1°00'42	morning rise		3344 Oct 11 20:36	9° Δ 38'13	
max. Earth dist.	3339 Apr 05 15:00	15° γ 21'47	5.94604 AU	retrograde		3345 Feb 09 08:32	26° Δ 26'29	
morning rise	3339 Apr 18 07:08	18° γ 26'03		opposition		3345 Apr 10 20:10	21° Δ 31'31	1°30'07
	3339 Jun 08 18:35	0° ϛ		min. Earth dist.		3345 Apr 11 09:16	21° Δ 27'17	4.46353 AU
retrograde	3339 Aug 28 16:52	9° ϛ 10'21		direct		3345 Jun 12 05:45	16° Δ 28'59	
opposition	3339 Oct 27 11:37	4° ϛ 08'17	-1°-31'-7			3345 Sep 28 00:02	0° ℳ	
min. Earth dist.	3339 Oct 26 14:30	4° ϛ 15'23	3.93623 AU	evening set		3345 Oct 16 13:34	3° ℳ 54'05	
	3339 Dec 03 07:55	30° R γ		max. Earth dist.		3345 Oct 28 04:28	6° ℳ 24'11	6.46805 AU
direct	3339 Dec 24 10:32	29° γ 14'11						
	3340 Jan 14 13:12	0° ϛ		conjunction		3345 Oct 29 12:36	6° ℳ 41'31	1°00'54
	3340 Apr 11 05:17	15° ϛ		minimum elong		3345 Oct 29 12:37	6° ℳ 41'31	1°00'54
evening set	3340 Apr 28 09:50	19° ϛ 04'14		morning rise		3345 Nov 11 09:03	9° ℳ 27'43	
						3345 Dec 07 22:22	15° ℳ	
conjunction	3340 May 11 20:59	22° ϛ 18'50	0°-54'-4	retrograde		3346 Mar 11 11:37	26° ℳ 09'41	
minimum elong	3340 May 11 21:01	22° ϛ 18'51	0°54'05	opposition		3346 May 11 06:12	21° ℳ 16'57	1°20'30
max. Earth dist.	3340 May 13 18:28	22° ϛ 46'16	5.95013 AU	min. Earth dist.		3346 May 12 11:02	21° ℳ 07'43	4.45430 AU
morning rise	3340 May 25 10:54	25° ϛ 34'51		direct		3346 Jul 13 00:57	16° ℳ 15'13	
	3340 Jun 13 05:52	0° Π				3346 Oct 29 09:44	0° ϛ	
retrograde	3340 Oct 04 07:25	16° Π 07'00		evening set		3346 Nov 16 00:28	3° ϛ 45'33	
min. Earth dist.	3340 Dec 01 09:26	11° Π 14'02	3.98885 AU	max. Earth dist.		3346 Nov 26 19:37	6° ϛ 07'01	6.42012 AU
opposition	3340 Dec 02 19:42	11° Π 02'22	-1°-2'-59					
direct	3341 Jan 29 18:54	6° Π 06'07		conjunction		3346 Nov 28 19:06	6° ϛ 33'03	0°46'08
evening set	3341 Jun 05 01:41	25° Π 34'31		minimum elong		3346 Nov 28 19:08	6° ϛ 33'04	0°46'08
				morning rise		3346 Dec 11 11:24	9° ϛ 19'38	
conjunction	3341 Jun 18 18:34	28° Π 47'21	0°-26'-21	retrograde		3347 Apr 11 18:04	26° ϛ 24'42	
minimum elong	3341 Jun 18 18:36	28° Π 47'22	0°26'22	opposition		3347 Jun 11 16:34	21° ϛ 32'42	0°49'05
max. Earth dist.	3341 Jun 21 04:03	29° Π 21'05	6.04552 AU	min. Earth dist.		3347 Jun 13 05:41	21° ϛ 20'53	4.37031 AU
	3341 Jun 23 22:25	0° ϙ		direct		3347 Aug 13 04:12	16° ϛ 32'37	
morning rise	3341 Jul 02 13:23	2° ϙ 00'52				3347 Nov 26 12:23	0° ϙ	
retrograde	3341 Nov 08 13:18	21° ϙ 35'48		evening set		3347 Dec 16 19:32	4° ϙ 26'11	
min. Earth dist.	3342 Jan 05 16:20	16° ϙ 43'15	4.11571 AU	max. Earth dist.		3347 Dec 27 07:23	6° ϙ 47'36	6.30606 AU
opposition	3342 Jan 07 03:43	16° ϙ 31'13	0°-12'-13					
direct	3342 Mar 06 22:07	11° ϙ 32'00		conjunction		3347 Dec 29 12:05	7° ϙ 17'19	0°18'11
asc. node	3342 Apr 06 18:35	13° ϙ 03'52		minimum elong		3347 Dec 29 12:06	7° ϙ 17'19	0°18'11
	3342 Jul 09 23:29	0° Ω		morning rise		3348 Jan 11 03:39	10° ϙ 08'10	
evening set	3342 Jul 11 12:38	0° Ω 20'55		retrograde		3348 May 14 02:16	28° ϙ 03'46	
				opposition		3348 Jul 13 22:21	23° ϙ 10'55	0°01'44
conjunction	3342 Jul 25 05:59	3° Ω 27'16	0°09'57	min. Earth dist.		3348 Jul 15 09:57	22° ϙ 59'31	4.23239 AU
minimum elong	3342 Jul 25 05:58	3° Ω 27'16	0°09'57	desc. node		3348 Jul 27 05:49	21° ϙ 30'32	
behind sun begin	3342 Jul 24 23:16	3° Ω 23'29		direct		3348 Sep 13 11:42	18° ϙ 13'00	
behind sun end	3342 Jul 25 12:39	3° Ω 31'02				3348 Dec 17 15:32	0° ≈	
max. Earth dist.	3342 Jul 27 05:18	3° Ω 54'06	6.19260 AU	evening set		3349 Jan 16 21:28	6° ≈ 44'27	
morning rise	3342 Aug 07 23:16	6° Ω 33'17		max. Earth dist.		3349 Jan 27 21:43	9° ≈ 17'59	6.15564 AU
	3342 Sep 16 11:38	15° Ω						
retrograde	3342 Dec 11 09:57	24° Ω 56'22		conjunction		3349 Jan 29 14:58	9° ≈ 42'02	0°-16'-30
min. Earth dist.	3343 Feb 08 05:47	20° Ω 02'08	4.26800 AU	minimum elong		3349 Jan 29 14:58	9° ≈ 42'01	0°16'31
opposition	3343 Feb 09 04:57	19° Ω 54'21	0°39'21	morning rise		3349 Feb 11 08:39	12° ≈ 40'01	

	3349 Feb 21 11:55	15°♊	opposition	3355 Feb 13 16:15	24°♏33'05	0°45'36
	3349 May 16 02:45	0°♋	min. Earth dist.	3355 Feb 12 18:31	24°♏40'21	4.29097 AU
retrograde	3349 Jun 18 20:26	1°♋45'03	direct	3355 Apr 14 23:21	19°♏31'20	
	3349 Jul 22 18:12	30°♌		3355 Jul 14 10:10	0°♍	
opposition	3349 Aug 18 09:36	26°♌49'56	evening set	3355 Aug 19 15:39	7°♍33'45	
min. Earth dist.	3349 Aug 19 06:38	26°♌43'07				
direct	3349 Oct 17 12:10	21°♌54'33	conjunction	3355 Sep 02 03:13	10°♍30'37	0°44'43
	3349 Dec 31 11:33	0°♋	minimum elong	3355 Sep 02 03:11	10°♍30'36	0°44'43
evening set	3350 Feb 19 23:43	11°♋08'49	max. Earth dist.	3355 Sep 02 21:14	10°♍40'29	6.35752 AU
			morning rise	3355 Sep 15 13:03	13°♍26'23	
conjunction	3350 Mar 04 20:52	14°♋13'59		3355 Dec 25 08:48	0°♎	
minimum elong	3350 Mar 04 20:50	14°♋13'58	retrograde	3356 Jan 15 13:25	0°♎42'35	
max. Earth dist.	3350 Mar 04 04:59	14°♋04'27		3356 Feb 05 14:01	30°♌	
morning rise	3350 Mar 17 19:58	17°♋20'23	opposition	3356 Mar 15 17:48	25°♍44'45	1°19'15
	3350 May 14 19:06	0°♍	min. Earth dist.	3356 Mar 15 15:16	25°♍45'35	4.41052 AU
retrograde	3350 Jul 26 16:58	7°♍33'07	direct	3356 May 16 08:43	20°♍42'04	
opposition	3350 Sep 24 19:27	2°♍34'23		3356 Aug 10 02:01	0°♎	
min. Earth dist.	3350 Sep 24 17:38	2°♍35'00	evening set	3356 Sep 19 21:22	8°♎17'19	
	3350 Oct 15 07:19	30°♌				
direct	3350 Nov 22 12:18	27°♋40'36	conjunction	3356 Oct 03 02:01	11°♎07'45	1°00'35
	3350 Dec 30 04:07	0°♍	minimum elong	3356 Oct 03 02:00	11°♎07'44	1°00'35
evening set	3351 Mar 28 05:01	17°♍25'54	max. Earth dist.	3356 Oct 02 15:47	11°♎02'14	6.44725 AU
			morning rise	3356 Oct 16 03:59	13°♎56'50	
conjunction	3351 Apr 10 09:12	20°♍37'43		3357 Jan 23 05:08	0°♏	
minimum elong	3351 Apr 10 09:11	20°♍37'43	retrograde	3357 Feb 13 11:36	0°♏42'31	
max. Earth dist.	3351 Apr 11 05:32	20°♍50'05		3357 Mar 06 18:00	30°♌	
morning rise	3351 Apr 23 16:05	23°♍51'07	opposition	3357 Apr 15 01:04	25°♎47'54	1°30'10
	3351 May 19 19:23	0°♎	min. Earth dist.	3357 Apr 15 16:28	25°♎42'56	4.46616 AU
retrograde	3351 Sep 03 05:28	14°♎37'27	direct	3357 Jun 16 12:10	20°♎45'21	
opposition	3351 Nov 01 21:41	9°♎34'56		3357 Sep 10 13:04	0°♏	
min. Earth dist.	3351 Oct 31 22:09	9°♎42'52	evening set	3357 Oct 20 19:52	8°♏10'30	
direct	3351 Dec 29 19:34	4°♎40'42	max. Earth dist.	3357 Nov 01 07:45	10°♏39'08	6.46426 AU
	3352 Mar 23 04:23	15°♎				
evening set	3352 May 03 19:31	24°♎29'12	conjunction	3357 Nov 02 18:14	10°♏57'47	0°59'45
			minimum elong	3357 Nov 02 18:15	10°♏57'48	0°59'45
conjunction	3352 May 17 07:32	27°♎43'49	morning rise	3357 Nov 15 13:53	13°♏43'51	
minimum elong	3352 May 17 07:34	27°♎43'50		3357 Nov 21 12:15	15°♏	
max. Earth dist.	3352 May 19 07:51	28°♎12'52		3358 Feb 26 11:19	0°♐	
	3352 May 26 18:24	0°♐	retrograde	3358 Mar 15 18:36	0°♐27'54	
morning rise	3352 May 30 22:34	0°♐59'50		3358 Apr 02 01:28	30°♌	
retrograde	3352 Oct 09 10:17	21°♐25'25	opposition	3358 May 15 13:50	25°♏35'24	1°17'20
min. Earth dist.	3352 Dec 06 11:25	16°♐32'58	min. Earth dist.	3358 May 16 20:47	25°♏25'31	4.44435 AU
opposition	3352 Dec 07 23:47	16°♐20'35	direct	3358 Jul 17 08:55	20°♏33'51	
direct	3353 Feb 03 23:54	11°♐23'54		3358 Oct 11 23:09	0°♐	
	3353 Jun 07 00:07	0°♑	evening set	3358 Nov 20 07:17	8°♐07'16	
evening set	3353 Jun 10 08:23	0°♑46'32	max. Earth dist.	3358 Nov 30 22:51	10°♐27'22	6.40463 AU
conjunction	3353 Jun 24 01:39	3°♑58'32	conjunction	3358 Dec 03 01:25	10°♐55'11	0°42'53
minimum elong	3353 Jun 24 01:40	3°♑58'33	minimum elong	3358 Dec 03 01:27	10°♐55'12	0°42'54
max. Earth dist.	3353 Jun 26 10:46	4°♑31'53	morning rise	3358 Dec 15 17:37	13°♐42'19	
morning rise	3353 Jul 07 20:29	7°♑11'02		3359 Mar 23 03:47	0°♑	
retrograde	3353 Nov 13 08:19	26°♑34'50	retrograde	3359 Apr 16 08:25	0°♑53'58	
opposition	3354 Jan 11 23:07	21°♑30'26		3359 May 10 13:46	30°♌	
min. Earth dist.	3354 Jan 10 13:38	21°♑41'49	opposition	3359 Jun 16 06:14	26°♐01'56	0°43'11
asc. node	3354 Feb 14 06:48	17°♑36'02	min. Earth dist.	3359 Jun 17 20:02	25°♐49'53	4.35020 AU
direct	3354 Mar 11 23:11	16°♑30'48	direct	3359 Aug 17 15:34	21°♐02'04	
	3354 Jun 22 18:37	0°♒		3359 Nov 08 11:31	0°♑	
evening set	3354 Jul 16 12:04	5°♒12'30	evening set	3359 Dec 21 06:24	9°♑01'24	
			max. Earth dist.	3359 Dec 31 20:07	11°♑24'34	6.28304 AU
conjunction	3354 Jul 30 05:01	8°♒17'35	conjunction	3360 Jan 02 23:08	11°♑53'28	0°13'29
minimum elong	3354 Jul 30 04:59	8°♒17'34	minimum elong	3360 Jan 02 23:08	11°♑53'29	0°13'29
behind sun begin	3354 Jul 30 02:10	8°♒15'59		3360 Jan 02 18:33	11°♑50'53	
behind sun end	3354 Jul 30 07:48	8°♒19'09	behind sun begin	3360 Jan 03 03:44	11°♑56'04	
max. Earth dist.	3354 Aug 01 02:27	8°♒43'11	behind sun end	3360 Jan 15 14:43	14°♑45'18	
morning rise	3354 Aug 12 21:31	11°♒22'09	morning rise	3360 Apr 05 08:09	0°♒	
	3354 Aug 29 09:24	15°♒		3360 May 19 00:32	2°♒50'49	
retrograde	3354 Dec 15 18:51	29°♒34'38	retrograde			

desc. node	3360 Jun 05 10:14	2° \approx 22'35		min. Earth dist.	3366 Jan 15 07:18	26° \approx 34'21	4.16260 AU
	3360 Jul 02 10:03	30° \approx 30'		opposition	3366 Jan 16 16:08	26° \approx 23'13	0°03'04
opposition	3360 Jul 18 20:06	27° \approx 57'46	0°-5'-40	direct	3366 Mar 16 19:35	21° \approx 23'17	
min. Earth dist.	3360 Jul 20 05:54	27° \approx 46'57	4.20819 AU		3366 Jun 03 20:27	0° \approx	
direct	3360 Sep 18 04:14	23° \approx 00'17		evening set	3366 Jul 21 09:39	9° \approx 58'42	
	3360 Nov 27 16:51	0° \approx					
evening set	3361 Jan 21 15:20	11° \approx 38'41		conjunction	3366 Aug 04 01:54	13° \approx 02'33	0°19'42
max. Earth dist.	3361 Feb 01 18:21	14° \approx 14'40	6.13233 AU	minimum elong	3366 Aug 04 01:52	13° \approx 02'33	0°19'42
				max. Earth dist.	3366 Aug 05 18:23	13° \approx 02'5'16	6.23931 AU
conjunction	3361 Feb 03 09:05	14° \approx 37'22	0°-21'-24		3366 Aug 12 19:33	15° \approx	
minimum elong	3361 Feb 03 09:03	14° \approx 37'21	0°21'25	morning rise	3366 Aug 17 17:46	16° \approx 05'52	
	3361 Feb 04 23:42	15° \approx			3366 Oct 28 09:08	0° \approx	
morning rise	3361 Feb 16 03:29	17° \approx 36'38		retrograde	3366 Dec 20 04:51	4° \approx 09'10	
	3361 Apr 15 11:31	0° \approx			3367 Feb 11 14:31	30° \approx 30'	
retrograde	3361 Jun 24 04:30	6° \approx 52'33		min. Earth dist.	3367 Feb 17 08:08	29° \approx 01'4'16	4.31066 AU
opposition	3361 Aug 23 15:42	1° \approx 56'56	0°-56'-8	opposition	3367 Feb 18 02:24	29° \approx 08'10	0°51'31
min. Earth dist.	3361 Aug 24 09:25	1° \approx 51'10	4.06019 AU	direct	3367 Apr 19 15:08	24° \approx 06'13	
	3361 Sep 08 01:11	30° \approx			3367 Jun 23 20:04	0° \approx	
direct	3361 Oct 22 13:19	27° \approx 01'51		evening set	3367 Aug 24 06:11	12° \approx 04'04	
	3361 Dec 05 01:07	0° \approx					
evening set	3362 Feb 25 01:08	16° \approx 21'45		conjunction	3367 Sep 06 16:59	14° \approx 59'57	0°47'53
				minimum elong	3367 Sep 06 16:57	14° \approx 59'56	0°47'52
conjunction	3362 Mar 09 23:15	19° \approx 28'00	0°-50'-29	max. Earth dist.	3367 Sep 07 07:56	15° \approx 08'07	6.37335 AU
minimum elong	3362 Mar 09 23:13	19° \approx 27'59	0°50'29	morning rise	3367 Sep 20 01:37	17° \approx 54'38	
max. Earth dist.	3362 Mar 09 13:52	19° \approx 22'22	6.00061 AU		3367 Nov 21 08:08	0° \approx	
morning rise	3362 Mar 22 23:11	22° \approx 35'30		retrograde	3368 Jan 19 17:51	5° \approx 05'13	
	3362 Apr 24 00:17	0° \approx		opposition	3368 Mar 20 00:06	0° \approx 07'56	1°22'12
retrograde	3362 Aug 01 05:28	12° \approx 55'20		min. Earth dist.	3368 Mar 19 23:28	0° \approx 08'08	4.42165 AU
opposition	3362 Sep 30 06:01	7° \approx 56'04	-1°-28'-40		3368 Mar 21 00:17	30° \approx	
min. Earth dist.	3362 Sep 30 00:56	7° \approx 57'45	3.95858 AU	direct	3368 May 20 17:21	25° \approx 05'15	
direct	3362 Nov 27 19:10	3° \approx 02'24			3368 Jul 19 16:51	0° \approx	
evening set	3363 Apr 02 12:26	22° \approx 49'16		evening set	3368 Sep 24 06:50	12° \approx 38'29	
conjunction	3363 Apr 15 17:31	26° \approx 01'37	-1°-1'-19	conjunction	3368 Oct 07 10:27	15° \approx 28'18	1°01'28
minimum elong	3363 Apr 15 17:31	26° \approx 01'37	1°01'20	minimum elong	3368 Oct 07 10:26	15° \approx 28'18	1°01'28
max. Earth dist.	3363 Apr 16 17:40	26° \approx 16'17	5.93844 AU	max. Earth dist.	3368 Oct 06 19:35	15° \approx 20'17	6.45283 AU
morning rise	3363 Apr 29 01:44	29° \approx 15'37		morning rise	3368 Oct 20 11:31	18° \approx 16'49	
	3363 May 02 03:31	0° \approx			3368 Dec 20 10:43	0° \approx	
	3363 Jul 12 16:50	15° \approx		retrograde	3369 Feb 17 18:04	5° \approx 01'09	
retrograde	3363 Sep 08 13:23	20° \approx 01'13		opposition	3369 Apr 19 07:23	0° \approx 06'58	1°29'44
min. Earth dist.	3363 Nov 06 03:06	15° \approx 07'21	3.94432 AU	min. Earth dist.	3369 Apr 20 02:07	0° \approx 00'56	4.46599 AU
opposition	3363 Nov 07 06:04	14° \approx 58'14	-1°-26'-29		3369 Apr 20 05:00	30° \approx 30'	
	3363 Nov 07 00:52	15° \approx		direct	3369 Jun 20 21:12	25° \approx 04'32	
direct	3364 Jan 04 02:40	10° \approx 03'45			3369 Aug 20 07:10	0° \approx	
	3364 Feb 28 23:32	15° \approx		evening set	3369 Oct 25 03:01	12° \approx 30'23	
evening set	3364 May 09 03:49	29° \approx 49'09		max. Earth dist.	3369 Nov 05 10:46	14° \approx 57'06	6.45825 AU
	3364 May 09 22:02	0° \approx			3369 Nov 05 16:08	15° \approx	
conjunction	3364 May 22 16:50	3° \approx 03'35	0°-47'-52	conjunction	3369 Nov 07 00:43	15° \approx 17'39	0°58'16
minimum elong	3364 May 22 16:52	3° \approx 03'36	0°47'54	minimum elong	3369 Nov 07 00:44	15° \approx 17'40	0°58'15
max. Earth dist.	3364 May 24 19:43	3° \approx 34'04	5.97279 AU	morning rise	3369 Nov 19 19:47	18° \approx 03'44	
morning rise	3364 Jun 05 08:35	6° \approx 19'18			3370 Jan 20 21:08	0° \approx	
retrograde	3364 Oct 14 12:05	26° \approx 37'01		retrograde	3370 Mar 20 03:08	4° \approx 50'42	
min. Earth dist.	3364 Dec 11 13:34	21° \approx 44'18	4.02332 AU	opposition	3370 May 19 23:10	29° \approx 58'21	1°13'39
opposition	3364 Dec 13 01:23	21° \approx 32'05	0°-49'-53		3370 May 19 18:01	30° \approx	
direct	3365 Feb 09 05:00	16° \approx 35'01		min. Earth dist.	3370 May 21 07:00	29° \approx 48'11	4.43306 AU
	3365 May 20 13:57	0° \approx		direct	3370 Jul 21 16:47	24° \approx 57'01	
evening set	3365 Jun 15 12:33	5° \approx 51'31			3370 Sep 20 17:15	0° \approx	
				evening set	3370 Nov 24 15:28	12° \approx 33'49	
conjunction	3365 Jun 29 06:09	9° \approx 02'40	0°-16'-19	max. Earth dist.	3370 Dec 05 07:15	14° \approx 54'33	6.38903 AU
minimum elong	3365 Jun 29 06:10	9° \approx 02'40	0°16'20				
max. Earth dist.	3365 Jul 01 15:40	9° \approx 36'03	6.08860 AU	conjunction	3370 Dec 07 09:21	15° \approx 22'14	0°39'19
morning rise	3365 Jul 13 00:57	12° \approx 14'09		minimum elong	3370 Dec 07 09:23	15° \approx 22'15	0°39'20
	3365 Oct 18 20:53	0° \approx		morning rise	3370 Dec 20 01:12	18° \approx 20'53	
retrograde	3365 Nov 18 00:18	1° \approx 27'14			3371 Feb 17 20:04	0° \approx	
	3365 Dec 17 21:33	30° \approx 30'		retrograde	3371 Apr 21 00:06	5° \approx 28'11	
asc. node	3365 Dec 24 22:49	29° \approx 16'42		opposition	3371 Jun 20 21:42	0° \approx 36'11	0°36'52

min. Earth dist.	3371 Jun 22 11:37	0°☾24'06	4.33132 AU	direct	3377 Feb 14 04:01	21°♊35'11	
	3371 Jun 25 15:28	30°♊27'			3377 May 01 14:01	0°☾	
direct	3371 Aug 22 04:17	25°♊36'42		evening set	3377 Jun 20 12:50	10°☾46'01	
	3371 Oct 16 21:40	0°☾					
evening set	3371 Dec 25 18:31	13°☾41'10		conjunction	3377 Jul 04 06:26	13°☾56'16	0°-11'-20
max. Earth dist.	3372 Jan 05 08:21	16°☾05'09	6.26251 AU	minimum elong	3377 Jul 04 06:26	13°☾56'17	0°11'22
				behind sun begin	3377 Jul 04 00:26	13°☾52'49	
conjunction	3372 Jan 07 11:07	16°☾34'03	0°08'38	behind sun end	3377 Jul 04 12:26	13°☾59'44	
minimum elong	3372 Jan 07 11:07	16°☾34'03	0°08'38	max. Earth dist.	3377 Jul 06 12:43	14°☾27'38	6.10856 AU
behind sun begin	3372 Jan 07 04:10	16°☾30'07		morning rise	3377 Jul 18 01:16	17°☾06'48	
behind sun end	3372 Jan 07 18:04	16°☾38'00			3377 Sep 18 08:59	0°♏	
morning rise	3372 Jan 20 03:05	19°☾26'52		asc. node	3377 Nov 05 00:43	5°♏40'04	
	3372 Mar 10 07:56	0°♊		retrograde	3377 Nov 22 13:05	6°♏10'15	
desc. node	3372 Apr 14 11:18	5°♊20'09		min. Earth dist.	3378 Jan 19 22:54	1°♏16'53	4.18248 AU
retrograde	3372 May 24 00:42	7°♊41'37		opposition	3378 Jan 21 05:27	1°♏06'32	0°10'21
opposition	3372 Jul 23 19:15	2°♊48'17	0°-13'-9		3378 Jan 29 11:41	30°♊☾	
min. Earth dist.	3372 Jul 25 02:41	2°♊38'10	4.18754 AU	direct	3378 Mar 21 13:48	26°☾06'13	
	3372 Aug 16 00:43	30°♊☾			3378 May 11 12:28	0°♏	
direct	3372 Sep 22 22:39	27°☾51'08		evening set	3378 Jul 26 03:43	14°♏36'34	
	3372 Oct 30 10:15	0°♊			3378 Jul 27 21:52	15°♏	
	3373 Jan 19 13:41	15°♊					
evening set	3373 Jan 26 09:24	16°♊34'59		conjunction	3378 Aug 08 19:38	17°♏39'27	0°24'13
max. Earth dist.	3373 Feb 06 18:06	19°♊14'54	6.11360 AU	minimum elong	3378 Aug 08 19:36	17°♏39'26	0°24'13
				max. Earth dist.	3378 Aug 10 09:56	18°♏00'51	6.25771 AU
conjunction	3373 Feb 08 03:39	19°♊34'39	0°-26'-10	morning rise	3378 Aug 22 10:34	20°♏41'36	
minimum elong	3373 Feb 08 03:38	19°♊34'38	0°26'11		3378 Oct 06 02:06	0°♎	
morning rise	3373 Feb 20 22:28	22°♊34'55		retrograde	3378 Dec 24 12:05	8°♎37'16	
	3373 Mar 25 19:42	0°♋		opposition	3379 Feb 22 10:18	3°♎36'49	0°56'57
retrograde	3373 Jun 29 11:19	11°♋59'48		min. Earth dist.	3379 Feb 21 17:58	3°♎42'15	4.32630 AU
opposition	3373 Aug 28 21:15	7°♋03'44	-1°-2'-14		3379 Mar 24 21:22	30°♊♏	
min. Earth dist.	3373 Aug 29 12:07	6°♋58'53	4.04526 AU	direct	3379 Apr 24 02:18	28°♏34'45	
direct	3373 Oct 27 14:15	2°♋08'58			3379 May 24 17:01	0°♎	
evening set	3374 Mar 02 01:44	21°♋32'25		evening set	3379 Aug 28 18:44	16°♎29'19	
conjunction	3374 Mar 15 00:26	24°♋39'24	0°-53'-19	conjunction	3379 Sep 11 04:27	19°♎24'19	0°50'40
minimum elong	3374 Mar 15 00:24	24°♋39'23	0°53'19	minimum elong	3379 Sep 11 04:26	19°♎24'18	0°50'40
max. Earth dist.	3374 Mar 14 18:42	24°♋35'57	5.99073 AU	max. Earth dist.	3379 Sep 11 13:55	19°♎29'28	6.38505 AU
morning rise	3374 Mar 28 01:28	27°♋47'47		morning rise	3379 Sep 24 12:15	22°♎18'09	
	3374 Apr 06 07:38	0°♌			3379 Oct 31 19:18	0°♎	
retrograde	3374 Aug 06 12:47	18°♌12'16		retrograde	3380 Jan 23 23:34	9°♎24'35	
opposition	3374 Oct 05 13:40	13°♌12'24	-1°-30'-34	opposition	3380 Mar 24 05:42	4°♎27'46	1°24'37
min. Earth dist.	3374 Oct 05 04:15	13°♌15'32	3.95508 AU	min. Earth dist.	3380 Mar 24 08:28	4°♎26'52	4.42902 AU
direct	3374 Dec 02 23:34	8°♌18'42			3380 May 05 14:01	30°♊♎	
evening set	3375 Apr 07 16:51	28°♌05'23		direct	3380 May 25 02:40	29°♎25'04	
	3375 Apr 15 14:23	0°♍			3380 Jun 13 18:52	0°♎	
				evening set	3380 Sep 28 15:21	16°♎57'14	
conjunction	3375 Apr 20 23:04	1°♍18'04	-1°00'-51				
minimum elong	3375 Apr 20 23:04	1°♍18'04	1°00'51	conjunction	3380 Oct 11 18:16	19°♎46'39	1°01'58
max. Earth dist.	3375 Apr 22 04:11	1°♍35'44	5.94153 AU	minimum elong	3380 Oct 11 18:16	19°♎46'39	1°01'58
morning rise	3375 May 04 08:13	4°♍32'22		max. Earth dist.	3380 Oct 11 01:08	19°♎37'24	6.45538 AU
	3375 Jun 19 11:12	15°♍		morning rise	3380 Oct 24 18:18	22°♎34'42	
retrograde	3375 Sep 13 18:36	25°♍15'34			3380 Nov 29 23:54	0°♎	
min. Earth dist.	3375 Nov 11 06:38	20°♍21'36	3.95363 AU	retrograde	3381 Feb 21 22:25	9°♎18'28	
opposition	3375 Nov 12 10:33	20°♍12'08	-1°-23'-6	opposition	3381 Apr 23 13:24	4°♎24'38	1°28'48
direct	3376 Jan 09 08:04	15°♍17'19		min. Earth dist.	3381 Apr 24 09:09	4°♎18'16	4.46391 AU
	3376 Apr 22 23:44	0°♎			3381 Jun 04 16:18	30°♊♎	
evening set	3376 May 14 07:59	4°♎58'41		direct	3381 Jun 25 03:08	29°♎22'21	
					3381 Jul 15 19:15	0°♎	
conjunction	3376 May 27 21:52	8°♎12'50	0°-44'-18		3381 Oct 20 21:25	15°♎	
minimum elong	3376 May 27 21:54	8°♎12'51	0°44'19	evening set	3381 Oct 29 10:01	16°♎49'15	
max. Earth dist.	3376 May 30 03:16	8°♎44'41	5.98728 AU	max. Earth dist.	3381 Nov 09 15:05	19°♎14'50	6.45167 AU
morning rise	3376 Jun 10 14:17	11°♎28'08					
	3376 Sep 17 12:22	0°☾		conjunction	3381 Nov 11 06:59	19°♎36'31	0°56'26
retrograde	3376 Oct 19 08:54	1°☾37'35		minimum elong	3381 Nov 11 07:00	19°♎36'31	0°56'27
	3376 Nov 19 23:00	30°♊♎		morning rise	3381 Nov 24 01:30	22°♎22'38	
min. Earth dist.	3376 Dec 16 10:10	26°♎45'00	4.04143 AU		3381 Dec 31 01:49	0°♊	
opposition	3376 Dec 17 22:24	26°♎32'40	0°-43'-3	retrograde	3382 Mar 24 13:21	9°♊12'32	

opposition	3382 May 24 08:50	4°♏20'21	1°09'33			3388 Apr 04 00:39	0°♊	
min. Earth dist.	3382 May 25 18:33	4°♏09'36	4.42228 AU	evening set		3388 May 19 13:53	10°♊11'35	
	3382 Jul 04 17:34	30°♍						
direct	3382 Jul 26 02:39	29°♍19'15		conjunction		3388 Jun 02 04:31	13°♊25'35	0°-40'-22
	3382 Aug 16 12:13	0°♏		minimum elong		3388 Jun 02 04:33	13°♊25'36	0°40'22
evening set	3382 Nov 28 23:07	16°♏58'54		max. Earth dist.		3388 Jun 04 09:51	13°♊57'17	5.99863 AU
max. Earth dist.	3382 Dec 09 13:13	19°♏19'14	6.37471 AU	morning rise		3388 Jun 15 21:47	16°♊40'41	
						3388 Aug 17 08:14	0°♋	
conjunction	3382 Dec 11 16:40	19°♏47'45	0°35'32	retrograde		3388 Oct 24 07:07	6°♋43'04	
minimum elong	3382 Dec 11 16:41	19°♏47'45	0°35'32	min. Earth dist.		3388 Dec 21 08:46	1°♋50'26	4.05670 AU
morning rise	3382 Dec 24 08:25	22°♏35'55		opposition		3388 Dec 22 20:48	1°♋38'09	0°-35'-49
	3383 Jan 28 08:52	0°♌				3389 Jan 04 02:50	30°♋	
retrograde	3383 Apr 25 14:45	10°♌00'26		direct		3389 Feb 19 05:36	26°♋40'14	
opposition	3383 Jun 25 12:46	5°♌08'17	0°30'21			3389 Apr 06 03:47	0°♌	
min. Earth dist.	3383 Jun 27 01:41	4°♌56'30	4.31413 AU	evening set		3389 Jun 25 15:20	15°♌46'34	
direct	3383 Aug 26 15:35	0°♌09'05						
evening set	3383 Dec 30 05:41	18°♌18'03		conjunction		3389 Jul 09 09:15	18°♌56'07	0°-6'-11
max. Earth dist.	3384 Jan 09 22:29	20°♌44'17	6.24373 AU	minimum elong		3389 Jul 09 09:15	18°♌56'07	0°06'12
				behind sun begin		3389 Jul 09 01:20	18°♌51'35	
conjunction	3384 Jan 11 22:23	21°♌11'41	0°03'46	behind sun end		3389 Jul 09 17:10	19°♌00'39	
minimum elong	3384 Jan 11 22:24	21°♌11'42	0°03'47	max. Earth dist.		3389 Jul 11 15:32	19°♌27'22	6.12663 AU
behind sun begin	3384 Jan 11 14:31	21°♌07'13		morning rise		3389 Jul 23 03:47	22°♌05'44	
behind sun end	3384 Jan 12 06:18	21°♌16'11				3389 Aug 28 08:14	0°♍	
morning rise	3384 Jan 24 14:26	24°♌05'19		asc. node		3389 Sep 14 11:58	3°♍20'10	
	3384 Feb 20 07:35	0°♎		retrograde		3389 Nov 27 05:24	11°♍00'07	
desc. node	3384 Feb 23 01:55	0°♎35'00		opposition		3390 Jan 25 21:14	5°♍56'50	0°17'44
retrograde	3384 May 29 00:05	12°♎28'45		min. Earth dist.		3390 Jan 24 16:07	6°♍06'40	4.20153 AU
opposition	3384 Jul 28 16:59	7°♎35'08	0°-20'-30	direct		3390 Mar 26 09:15	0°♍56'16	
min. Earth dist.	3384 Jul 29 23:31	7°♎25'19	4.16824 AU			3390 Jul 10 23:22	15°♍	
direct	3384 Sep 27 16:32	2°♎38'22		evening set		3390 Jul 31 00:46	19°♍21'47	
	3385 Jan 02 14:46	15°♎						
evening set	3385 Jan 31 02:23	21°♎27'29		conjunction		3390 Aug 13 15:54	22°♍23'34	0°28'42
				minimum elong		3390 Aug 13 15:52	22°♍23'33	0°28'42
conjunction	3385 Feb 12 20:56	24°♎28'05	0°-30'-42	max. Earth dist.		3390 Aug 15 02:10	22°♍42'39	6.27637 AU
minimum elong	3385 Feb 12 20:55	24°♎28'04	0°30'44	morning rise		3390 Aug 27 06:09	25°♍24'35	
max. Earth dist.	3385 Feb 11 13:09	24°♎09'18	6.09528 AU			3390 Sep 17 11:39	0°♎	
morning rise	3385 Feb 25 16:33	27°♎29'28		retrograde		3390 Dec 28 21:04	13°♎12'23	
	3385 Mar 08 10:58	0°♐		opposition		3391 Feb 26 20:38	8°♎12'24	1°02'11
retrograde	3385 Jul 04 15:09	17°♐03'23		min. Earth dist.		3391 Feb 26 06:29	8°♎17'07	4.34351 AU
opposition	3385 Sep 03 01:03	12°♐06'50	-1°-7'-53	direct		3391 Apr 28 16:51	3°♎10'12	
min. Earth dist.	3385 Sep 03 12:10	12°♐03'11	4.02959 AU	evening set		3391 Sep 02 09:25	21°♎00'43	
direct	3385 Nov 01 12:40	7°♐12'19						
evening set	3386 Mar 07 01:11	26°♐40'06		conjunction		3391 Sep 15 18:19	23°♎54'45	0°53'16
				minimum elong		3391 Sep 15 18:17	23°♎54'44	0°53'16
conjunction	3386 Mar 20 00:52	29°♐48'01	0°-55'-44	max. Earth dist.		3391 Sep 16 01:53	23°♎58'52	6.39994 AU
minimum elong	3386 Mar 20 00:50	29°♐48'00	0°55'45	morning rise		3391 Sep 29 00:48	26°♎47'30	
max. Earth dist.	3386 Mar 20 00:40	29°♐47'54	5.97919 AU			3391 Oct 14 02:27	0°♏	
	3386 Mar 20 20:41	0°♑		retrograde		3392 Jan 28 04:51	13°♏48'29	
morning rise	3386 Apr 02 02:47	2°♑57'21		opposition		3392 Mar 28 12:50	8°♏52'09	1°26'38
retrograde	3386 Aug 11 22:08	23°♑27'26		min. Earth dist.		3392 Mar 28 17:02	8°♏50'46	4.44090 AU
opposition	3386 Oct 10 20:23	18°♑27'03	-1°-31'-48	direct		3392 May 29 12:30	3°♏49'31	
min. Earth dist.	3386 Oct 10 09:02	18°♑30'50	3.94896 AU	evening set		3392 Oct 03 00:38	21°♏18'44	
direct	3386 Dec 08 04:19	13°♑33'19		max. Earth dist.		3392 Oct 15 05:01	23°♏55'55	6.46341 AU
	3387 Mar 29 19:51	0°♒						
evening set	3387 Apr 12 21:30	3°♒21'18		conjunction		3392 Oct 16 02:24	24°♏07'26	1°02'12
				minimum elong		3392 Oct 16 02:23	24°♏07'26	1°02'11
conjunction	3387 Apr 26 04:52	6°♒34'32	0°-59'-54	morning rise		3392 Oct 29 01:36	26°♏54'49	
minimum elong	3387 Apr 26 04:53	6°♒34'33	0°59'55			3392 Nov 12 15:46	0°♓	
max. Earth dist.	3387 Apr 27 14:04	6°♒54'40	5.94136 AU	retrograde		3393 Feb 26 04:35	13°♓36'15	
morning rise	3387 May 09 15:14	9°♒49'23		opposition		3393 Apr 27 19:50	8°♓42'40	1°27'26
	3387 May 31 14:34	15°♒		min. Earth dist.		3393 Apr 28 18:17	8°♓35'27	4.46769 AU
	3387 Sep 01 03:29	0°♊		direct		3393 Jun 29 12:26	3°♓40'27	
retrograde	3387 Sep 18 23:33	0°♊31'17				3393 Oct 04 07:25	15°♓	
	3387 Oct 06 16:49	30°♒		evening set		3393 Nov 02 15:35	21°♓06'10	
min. Earth dist.	3387 Nov 16 08:38	25°♒37'47	3.95960 AU	max. Earth dist.		3393 Nov 13 18:36	23°♓30'42	6.45085 AU
opposition	3387 Nov 17 14:49	25°♒27'34	-1°-19'-7					
direct	3388 Jan 14 10:53	20°♒32'29		conjunction		3393 Nov 15 11:59	23°♓53'11	0°54'23

minimum elong	3393 Nov 15 12:00	23° \mathbb{M} 53'12	0°54'23	min. Earth dist.	3399 Nov 21 10:36	0° \mathbb{H} 51'53	3.96170 AU
morning rise	3393 Nov 28 05:44	26° \mathbb{M} 39'05		opposition	3399 Nov 22 18:30	0° \mathbb{H} 41'02	-1°-14'-34
	3393 Dec 13 22:52	0° \mathbb{A}			3399 Nov 27 19:39	30° \mathbb{R} \mathbb{B}	
retrograde	3394 Mar 28 18:46	13° \mathbb{A} 30'07		direct	3400 Jan 19 14:50	25° \mathbb{B} 45'36	
opposition	3394 May 28 16:32	8° \mathbb{A} 37'57	1°05'10		3400 Mar 12 04:25	0° \mathbb{H}	
min. Earth dist.	3394 May 30 02:27	8° \mathbb{A} 27'08	4.41684 AU	evening set	3400 May 25 19:58	15° \mathbb{H} 23'57	
direct	3394 Jul 30 08:53	3° \mathbb{A} 37'01					
evening set	3394 Dec 03 04:09	21° \mathbb{A} 17'45		conjunction	3400 Jun 08 11:41	18° \mathbb{H} 38'00	0°-36'-7
max. Earth dist.	3394 Dec 13 17:35	23° \mathbb{A} 38'04	6.36498 AU	minimum elong	3400 Jun 08 11:43	18° \mathbb{H} 38'02	0°36'08
				max. Earth dist.	3400 Jun 10 20:17	19° \mathbb{H} 11'34	6.00702 AU
conjunction	3394 Dec 15 21:17	24° \mathbb{A} 06'48	0°31'42	morning rise	3400 Jun 22 05:29	21° \mathbb{H} 52'59	
minimum elong	3394 Dec 15 21:18	24° \mathbb{A} 06'49	0°31'42		3400 Jul 28 05:36	0° \mathbb{G}	
morning rise	3394 Dec 28 12:47	26° \mathbb{A} 55'16		retrograde	3400 Oct 30 07:37	11° \mathbb{G} 49'10	
	3395 Jan 11 14:56	0° \mathbb{B}		min. Earth dist.	3400 Dec 27 07:48	6° \mathbb{G} 56'33	4.07023 AU
retrograde	3395 Apr 30 03:15	14° \mathbb{B} 24'37		opposition	3400 Dec 28 19:46	6° \mathbb{G} 44'18	0°-28'-21
opposition	3395 Jun 30 00:36	9° \mathbb{B} 32'20	0°23'53	direct	3401 Feb 25 07:09	1° \mathbb{G} 46'00	
min. Earth dist.	3395 Jul 01 14:42	9° \mathbb{B} 20'11	4.30032 AU	evening set	3401 Jul 01 19:04	20° \mathbb{G} 48'20	
direct	3395 Aug 31 02:08	4° \mathbb{B} 33'21					
evening set	3396 Jan 03 13:07	22° \mathbb{B} 45'48		conjunction	3401 Jul 15 12:52	23° \mathbb{G} 57'05	0°00'-56
desc. node	3396 Jan 05 00:37	23° \mathbb{B} 06'00		minimum elong	3401 Jul 15 12:52	23° \mathbb{G} 57'05	0°00'57
max. Earth dist.	3396 Jan 14 05:16	25° \mathbb{B} 12'16	6.22682 AU	behind sun begin	3401 Jul 15 04:28	23° \mathbb{G} 52'18	
				behind sun end	3401 Jul 15 21:15	24° \mathbb{G} 01'52	
conjunction	3396 Jan 16 05:51	25° \mathbb{B} 40'08	0°-1'00	max. Earth dist.	3401 Jul 17 17:46	24° \mathbb{G} 27'24	6.14396 AU
minimum elong	3396 Jan 16 05:50	25° \mathbb{B} 40'08	0°01'01	asc. node	3401 Jul 25 12:47	26° \mathbb{G} 14'17	
behind sun begin	3396 Jan 15 21:51	25° \mathbb{B} 35'34		morning rise	3401 Jul 29 07:19	27° \mathbb{G} 05'48	
behind sun end	3396 Jan 16 13:50	25° \mathbb{B} 44'41			3401 Aug 11 05:27	0° \mathbb{J}	
morning rise	3396 Jan 28 22:13	28° \mathbb{B} 34'34			3401 Nov 09 21:44	15° \mathbb{J}	
	3396 Feb 04 04:30	0° \mathbb{K}		retrograde	3401 Dec 02 19:42	15° \mathbb{J} 51'04	
	3396 Apr 26 11:48	15° \mathbb{K}			3401 Dec 25 14:21	15° \mathbb{R} \mathbb{J}	
retrograde	3396 Jun 02 17:10	17° \mathbb{K} 06'17		min. Earth dist.	3402 Jan 30 09:00	10° \mathbb{J} 57'41	4.22081 AU
	3396 Jul 10 06:40	15° \mathbb{R} \mathbb{K}		opposition	3402 Jan 31 13:30	10° \mathbb{J} 48'04	0°24'59
opposition	3396 Aug 02 10:46	12° \mathbb{K} 12'17	0°-27'-27	direct	3402 Apr 01 05:16	5° \mathbb{J} 47'09	
min. Earth dist.	3396 Aug 03 15:11	12° \mathbb{K} 03'07	4.14931 AU		3402 Jun 23 05:08	15° \mathbb{J}	
direct	3396 Oct 02 05:09	7° \mathbb{K} 15'45		evening set	3402 Aug 05 22:10	24° \mathbb{J} 07'30	
	3396 Dec 15 03:20	15° \mathbb{K}					
evening set	3397 Feb 04 15:34	26° \mathbb{K} 10'19		conjunction	3402 Aug 19 12:38	27° \mathbb{J} 08'08	0°33'01
max. Earth dist.	3397 Feb 16 06:16	28° \mathbb{K} 55'05	6.07597 AU	minimum elong	3402 Aug 19 12:36	27° \mathbb{J} 08'07	0°33'00
				max. Earth dist.	3402 Aug 20 20:31	27° \mathbb{J} 25'49	6.29593 AU
conjunction	3397 Feb 17 10:41	29° \mathbb{K} 11'57	0°-34'-53		3402 Sep 01 11:28	0° \mathbb{P}	
minimum elong	3397 Feb 17 10:39	29° \mathbb{K} 11'56	0°34'53	morning rise	3402 Sep 02 01:48	0° \mathbb{P} 07'53	
	3397 Feb 20 19:40	0° \mathbb{H}		retrograde	3403 Jan 03 07:03	17° \mathbb{P} 47'26	
morning rise	3397 Mar 02 06:52	2° \mathbb{H} 14'26		opposition	3403 Mar 04 07:25	12° \mathbb{P} 47'57	1°07'02
retrograde	3397 Jul 09 18:22	21° \mathbb{H} 58'04		min. Earth dist.	3403 Mar 03 19:41	12° \mathbb{P} 51'50	4.36142 AU
opposition	3397 Sep 08 01:20	17° \mathbb{H} 01'04	-1°-12'-52	direct	3403 May 04 08:22	7° \mathbb{P} 45'37	
min. Earth dist.	3397 Sep 08 11:13	16° \mathbb{H} 57'49	4.01157 AU	evening set	3403 Sep 07 23:50	25° \mathbb{P} 31'39	
direct	3397 Nov 06 09:37	12° \mathbb{H} 06'41					
	3398 Mar 04 23:04	0° \mathbb{Y}		conjunction	3403 Sep 21 07:35	28° \mathbb{P} 24'40	0°55'32
evening set	3398 Mar 11 22:11	1° \mathbb{Y} 40'04		minimum elong	3403 Sep 21 07:34	28° \mathbb{P} 24'39	0°55'32
				max. Earth dist.	3403 Sep 21 10:24	28° \mathbb{P} 26'11	6.41439 AU
conjunction	3398 Mar 24 22:50	4° \mathbb{Y} 49'08	0°-57'-41		3403 Sep 28 15:33	0° \mathbb{L}	
minimum elong	3398 Mar 24 22:49	4° \mathbb{Y} 49'08	0°57'42	morning rise	3403 Oct 04 13:03	1° \mathbb{L} 16'23	
max. Earth dist.	3398 Mar 25 01:56	4° \mathbb{Y} 51'01	5.96418 AU	retrograde	3404 Feb 02 11:03	18° \mathbb{L} 12'24	
morning rise	3398 Apr 07 02:00	7° \mathbb{Y} 59'42		opposition	3404 Apr 02 20:20	13° \mathbb{L} 16'27	1°28'11
retrograde	3398 Aug 17 03:58	28° \mathbb{Y} 36'38		min. Earth dist.	3404 Apr 03 03:18	13° \mathbb{L} 14'10	4.45091 AU
min. Earth dist.	3398 Oct 15 09:58	23° \mathbb{Y} 40'39	3.93891 AU	direct	3404 Jun 03 23:26	8° \mathbb{L} 13'47	
opposition	3398 Oct 16 00:30	23° \mathbb{Y} 35'47	-1°-32'-19	evening set	3404 Oct 08 09:52	25° \mathbb{L} 40'51	
direct	3398 Dec 13 03:42	18° \mathbb{Y} 42'00		max. Earth dist.	3404 Oct 20 11:24	28° \mathbb{L} 16'22	6.46808 AU
	3399 Mar 12 01:41	0° \mathbb{B}					
evening set	3399 Apr 18 01:14	8° \mathbb{B} 33'13		conjunction	3404 Oct 21 10:51	28° \mathbb{L} 29'01	1°02'04
				minimum elong	3404 Oct 21 10:51	28° \mathbb{L} 29'01	1°02'04
conjunction	3399 May 01 09:45	11° \mathbb{B} 47'14	0°-58'-30		3404 Oct 28 11:42	0° \mathbb{M}	
minimum elong	3399 May 01 09:46	11° \mathbb{B} 47'15	0°58'32	morning rise	3404 Nov 03 08:56	1° \mathbb{M} 15'50	
max. Earth dist.	3399 May 02 21:36	12° \mathbb{B} 08'58	5.93716 AU		3405 Jan 17 20:56	15° \mathbb{M}	
morning rise	3399 May 14 21:28	15° \mathbb{B} 02'52		retrograde	3405 Mar 03 09:56	17° \mathbb{M} 56'18	
	3399 May 14 16:41	15° \mathbb{B}			3405 Apr 17 11:39	15° \mathbb{R} \mathbb{M}	
	3399 Jul 23 22:57	0° \mathbb{H}		opposition	3405 May 03 03:08	13° \mathbb{M} 03'03	1°25'34
retrograde	3399 Sep 24 04:09	5° \mathbb{H} 45'07		min. Earth dist.	3405 May 04 03:16	12° \mathbb{M} 55'18	4.46671 AU

direct	3405 Jul 04 20:20	8°♄01'00			3411 Apr 28 15:26	15°♄	
	3405 Sep 16 03:56	15°♄					
evening set	3405 Nov 07 22:47	25°♄27'19		conjunction	3411 May 07 20:19	17°♄13'34	0°-56'-35
max. Earth dist.	3405 Nov 18 21:42	27°♄49'58	6.44413 AU	minimum elong	3411 May 07 20:21	17°♄13'35	0°56'36
				max. Earth dist.	3411 May 09 14:08	17°♄38'52	5.94133 AU
conjunction	3405 Nov 20 18:24	28°♄14'19	0°51'58	morning rise	3411 May 21 09:00	20°♄29'28	
minimum elong	3405 Nov 20 18:26	28°♄14'20	0°51'58		3411 Jul 02 01:49	0°♄	
	3405 Nov 28 20:34	0°♄		retrograde	3411 Sep 30 12:18	11°♄07'41	
morning rise	3405 Dec 03 11:47	1°♄00'20		min. Earth dist.	3411 Nov 27 15:49	6°♄14'37	3.97351 AU
retrograde	3406 Apr 03 06:25	17°♄54'45		opposition	3411 Nov 29 01:03	6°♄03'19	-1°-9'-15
opposition	3406 Jun 03 03:26	13°♄02'42	1°00'19	direct	3412 Jan 25 22:38	1°♄07'32	
min. Earth dist.	3406 Jun 04 15:37	12°♄51'10	4.40460 AU	evening set	3412 May 31 04:23	20°♄41'10	
direct	3406 Aug 04 19:39	8°♄01'58					
evening set	3406 Dec 08 12:24	25°♄46'07		conjunction	3412 Jun 13 20:34	23°♄54'38	0°-31'-33
max. Earth dist.	3406 Dec 19 00:58	28°♄06'29	6.34812 AU	minimum elong	3412 Jun 13 20:36	23°♄54'39	0°31'34
				max. Earth dist.	3412 Jun 16 05:50	24°♄28'25	6.02517 AU
conjunction	3406 Dec 21 05:25	28°♄35'45	0°27'31	morning rise	3412 Jun 27 14:57	27°♄08'56	
minimum elong	3406 Dec 21 05:26	28°♄35'46	0°27'31		3412 Jul 09 22:27	0°♄	
	3406 Dec 27 12:22	0°♄		retrograde	3412 Nov 04 03:49	16°♄54'48	
morning rise	3407 Jan 02 20:49	1°♄24'51		min. Earth dist.	3413 Jan 01 05:30	12°♄02'25	4.09262 AU
retrograde	3407 May 05 19:30	19°♄01'46		opposition	3413 Jan 02 18:02	11°♄49'58	0°-20'-42
opposition	3407 Jul 05 17:37	14°♄09'20	0°16'55	direct	3413 Mar 02 08:16	6°♄51'13	
min. Earth dist.	3407 Jul 07 06:29	13°♄57'33	4.27984 AU	asc. node	3413 Jun 03 23:46	18°♄33'46	
direct	3407 Sep 05 14:36	9°♄10'41		evening set	3413 Jul 06 21:09	25°♄46'27	
desc. node	3407 Nov 15 05:33	16°♄03'07					
evening set	3408 Jan 09 02:22	27°♄28'56		conjunction	3413 Jul 20 14:44	28°♄53'59	0°04'18
max. Earth dist.	3408 Jan 19 20:43	29°♄57'24	6.20442 AU	minimum elong	3413 Jul 20 14:44	28°♄53'58	0°04'18
	3408 Jan 20 01:13	0°♄		behind sun begin	3413 Jul 20 06:31	28°♄49'19	
				behind sun end	3413 Jul 20 22:57	28°♄58'38	
conjunction	3408 Jan 21 19:12	0°♄24'13	0°-6'-1	max. Earth dist.	3413 Jul 22 17:23	29°♄22'50	6.16862 AU
minimum elong	3408 Jan 21 19:13	0°♄24'14	0°06'02		3413 Jul 25 10:39	0°♄	
behind sun begin	3408 Jan 21 11:36	0°♄19'52		morning rise	3413 Aug 03 08:37	2°♄01'19	
behind sun end	3408 Jan 22 02:49	0°♄28'35			3413 Oct 06 11:25	15°♄	
morning rise	3408 Feb 03 11:55	3°♄19'45		retrograde	3413 Dec 07 09:09	20°♄35'22	
	3408 Mar 29 23:42	15°♄		min. Earth dist.	3414 Feb 04 01:42	15°♄41'25	4.24518 AU
retrograde	3408 Jun 08 20:28	22°♄01'52		opposition	3414 Feb 05 03:27	15°♄32'45	0°31'52
opposition	3408 Aug 08 11:47	17°♄07'35	0°-34'-42		3414 Feb 09 04:53	15°♄	
min. Earth dist.	3408 Aug 09 15:13	16°♄58'43	4.12652 AU	direct	3414 Apr 06 01:09	10°♄31'32	
	3408 Aug 25 11:59	15°♄			3414 May 31 12:20	15°♄	
direct	3408 Oct 08 02:32	12°♄11'22		evening set	3414 Aug 10 16:11	28°♄45'11	
	3408 Nov 19 18:48	15°♄			3414 Aug 16 08:18	0°♄	
	3409 Feb 05 08:51	0°♄					
evening set	3409 Feb 10 12:14	1°♄12'38		conjunction	3414 Aug 24 05:47	1°♄44'31	0°37'00
max. Earth dist.	3409 Feb 22 06:44	4°♄00'25	6.05494 AU	minimum elong	3414 Aug 24 05:45	1°♄44'30	0°37'00
				max. Earth dist.	3414 Aug 25 09:53	2°♄00'01	6.31796 AU
conjunction	3409 Feb 23 08:00	4°♄15'27	0°-39'-5	morning rise	3414 Sep 06 17:55	4°♄42'53	
minimum elong	3409 Feb 23 07:58	4°♄15'26	0°39'05	retrograde	3415 Jan 07 12:00	22°♄13'59	
morning rise	3409 Mar 08 05:04	7°♄19'15		opposition	3415 Mar 08 14:56	17°♄14'58	1°11'19
retrograde	3409 Jul 16 03:45	27°♄12'55		min. Earth dist.	3415 Mar 08 05:23	17°♄18'07	4.37964 AU
opposition	3409 Sep 14 09:15	22°♄15'27	-1°-17'-38	direct	3415 May 08 19:49	12°♄12'28	
min. Earth dist.	3409 Sep 14 15:06	22°♄13'31	3.99465 AU	evening set	3415 Sep 12 10:54	29°♄54'16	
direct	3409 Nov 12 11:24	17°♄21'19			3415 Sep 12 21:35	0°♄	
	3410 Feb 16 04:13	0°♄					
evening set	3410 Mar 18 02:43	6°♄59'36		conjunction	3415 Sep 25 17:39	2°♄46'20	0°57'26
				minimum elong	3415 Sep 25 17:38	2°♄46'19	0°57'25
conjunction	3410 Mar 31 04:21	10°♄09'38	0°-59'-18	max. Earth dist.	3415 Sep 25 16:16	2°♄45'35	6.42744 AU
minimum elong	3410 Mar 31 04:20	10°♄09'38	0°59'18	morning rise	3415 Oct 08 21:56	5°♄37'05	
max. Earth dist.	3410 Mar 31 12:08	10°♄14'22	5.95303 AU	retrograde	3416 Feb 06 14:59	22°♄28'56	
morning rise	3410 Apr 13 08:44	13°♄21'16		opposition	3416 Apr 07 01:20	17°♄33'27	1°29'13
	3410 Jul 03 00:25	0°♄		min. Earth dist.	3416 Apr 07 11:34	17°♄30'08	4.45807 AU
retrograde	3410 Aug 23 15:12	4°♄02'57		direct	3416 Jun 08 07:54	12°♄30'50	
	3410 Oct 15 03:50	30°♄		evening set	3416 Oct 12 16:35	29°♄56'40	
opposition	3410 Oct 22 10:58	29°♄01'32	-1°-32'-4		3416 Oct 12 22:48	0°♄	
min. Earth dist.	3410 Oct 21 17:12	29°♄07'30	3.93510 AU				
direct	3410 Dec 19 12:05	24°♄07'40		conjunction	3416 Oct 25 16:39	2°♄44'29	1°01'37
	3411 Feb 18 20:11	0°♄		minimum elong	3416 Oct 25 16:39	2°♄44'29	1°01'37
evening set	3411 Apr 24 10:29	13°♄59'10		max. Earth dist.	3416 Oct 24 12:04	2°♄29'04	6.46860 AU

morning rise	3416 Nov 07 14:06	5°♄31'02		opposition	3422 Oct 27 21:23	4°♄27'38	-1°-30'-58
	3416 Dec 25 02:01	15°♄		min. Earth dist.	3422 Oct 27 00:58	4°♄34'30	3.93679 AU
retrograde	3417 Mar 07 15:57	22°♄12'09			3422 Dec 08 21:36	30°♄♂	
opposition	3417 May 07 09:31	17°♄19'07	1°23'20	direct	3422 Dec 24 21:04	29°♄33'39	
min. Earth dist.	3417 May 08 12:15	17°♄10'32	4.46075 AU		3423 Jan 09 19:58	0°♄	
	3417 May 26 05:19	15°♄♄			3423 Apr 11 05:56	15°♄	
direct	3417 Jul 09 03:30	12°♄17'10		evening set	3423 Apr 29 19:37	19°♄23'25	
	3417 Aug 22 01:48	15°♄					
evening set	3417 Nov 12 04:40	29°♄45'36		conjunction	3423 May 13 06:20	22°♄37'51	0°-54'-10
	3417 Nov 13 07:17	0°♄♂		minimum elong	3423 May 13 06:22	22°♄37'52	0°54'11
max. Earth dist.	3417 Nov 23 02:13	2°♄♂07'54	6.43208 AU	max. Earth dist.	3423 May 15 02:48	23°♄04'40	5.95044 AU
				morning rise	3423 May 26 20:11	25°♄53'47	
conjunction	3417 Nov 24 23:58	2°♄♂32'54	0°49'19		3423 Jun 13 06:10	0°♄	
minimum elong	3417 Nov 25 00:00	2°♄♂32'55	0°49'18	retrograde	3423 Oct 05 15:49	16°♄25'57	
morning rise	3417 Dec 07 16:48	5°♄♂19'13		min. Earth dist.	3423 Dec 02 18:22	11°♄33'21	3.98899 AU
retrograde	3418 Apr 07 16:39	22°♄♂18'54		opposition	3423 Dec 04 05:38	11°♄21'21	-1°-3'-25
opposition	3418 Jun 07 14:32	17°♄♂26'55	0°55'09	direct	3424 Jan 31 03:57	6°♄25'10	
min. Earth dist.	3418 Jun 09 03:04	17°♄♂15'17	4.38723 AU	evening set	3424 Jun 05 10:41	25°♄53'15	
direct	3418 Aug 09 04:14	12°♄♂26'30					
	3418 Dec 11 17:11	0°♄♂		conjunction	3424 Jun 19 03:24	29°♄05'59	0°-26'-47
evening set	3418 Dec 12 21:31	0°♄♂15'43		minimum elong	3424 Jun 19 03:25	29°♄06'00	0°26'49
max. Earth dist.	3418 Dec 23 09:03	2°♄♂36'17	6.32672 AU	max. Earth dist.	3424 Jun 21 12:42	29°♄39'39	6.04546 AU
					3424 Jun 22 23:23	0°♄♂	
conjunction	3418 Dec 25 14:17	3°♄♂06'08	0°23'10	morning rise	3424 Jul 02 21:56	2°♄♂19'25	
minimum elong	3418 Dec 25 14:18	3°♄♂06'09	0°23'10	retrograde	3424 Nov 08 23:47	21°♄54'50	
morning rise	3419 Jan 07 05:51	5°♄♂56'09		min. Earth dist.	3425 Jan 06 03:28	17°♄02'00	4.11533 AU
retrograde	3419 May 10 16:20	23°♄♂42'19		opposition	3425 Jan 07 14:08	16°♄50'12	0°-13'-2
opposition	3419 Jul 10 12:40	18°♄♂49'44	0°09'48	direct	3425 Mar 07 09:26	11°♄51'05	
min. Earth dist.	3419 Jul 12 01:27	18°♄♂37'58	4.25571 AU	asc. node	3425 Apr 13 12:19	14°♄02'29	
direct	3419 Sep 10 06:28	13°♄♂51'26			3425 Jul 08 22:44	0°♄♂	
desc. node	3419 Sep 24 12:06	14°♄♂10'23		evening set	3425 Jul 11 21:07	0°♄♂39'37	
	3420 Jan 03 17:44	0°♄♂					
evening set	3420 Jan 13 17:31	2°♄♂16'40		conjunction	3425 Jul 25 14:27	3°♄♂45'59	0°09'21
max. Earth dist.	3420 Jan 24 14:43	4°♄♂47'36	6.17971 AU	minimum elong	3425 Jul 25 14:26	3°♄♂45'59	0°09'20
				behind sun begin	3425 Jul 25 07:29	3°♄♂42'03	
conjunction	3420 Jan 26 10:46	5°♄♂13'09	0°-10'-59	behind sun end	3425 Jul 25 21:23	3°♄♂49'54	
minimum elong	3420 Jan 26 10:45	5°♄♂13'08	0°11'01	max. Earth dist.	3425 Jul 27 15:15	4°♄♂13'38	6.19188 AU
behind sun begin	3420 Jan 26 04:40	5°♄♂09'38		morning rise	3425 Aug 08 07:42	6°♄♂52'01	
behind sun end	3420 Jan 26 16:50	5°♄♂16'38			3425 Sep 15 06:05	15°♄♂	
morning rise	3420 Feb 08 03:55	8°♄♂09'54		retrograde	3425 Dec 11 19:08	25°♄♂15'51	
	3420 Mar 09 19:00	15°♄♂		opposition	3426 Feb 09 15:27	20°♄♂13'44	0°38'28
retrograde	3420 Jun 14 00:52	27°♄♂03'19		min. Earth dist.	3426 Feb 08 15:04	20°♄♂21'55	4.26707 AU
opposition	3420 Aug 13 15:33	22°♄♂08'41	0°-41'-50	direct	3426 Apr 10 16:57	15°♄♂12'18	
min. Earth dist.	3420 Aug 14 15:28	22°♄♂00'57	4.10345 AU		3426 Jul 30 21:08	0°♄♂	
direct	3420 Oct 12 23:57	17°♄♂12'55		evening set	3426 Aug 15 08:55	3°♄♂20'32	
	3421 Jan 18 21:50	0°♄♂♂					
evening set	3421 Feb 15 11:32	6°♄♂20'49		conjunction	3426 Aug 28 21:34	6°♄♂18'42	0°40'44
max. Earth dist.	3421 Feb 27 11:06	9°♄♂12'21	6.03559 AU	minimum elong	3426 Aug 28 21:32	6°♄♂18'41	0°40'44
				max. Earth dist.	3426 Aug 29 20:23	6°♄♂31'15	6.33685 AU
conjunction	3421 Feb 28 07:51	9°♄♂24'46	0°-43'-3	morning rise	3426 Sep 11 08:43	9°♄♂15'52	
minimum elong	3421 Feb 28 07:49	9°♄♂24'45	0°43'04	retrograde	3427 Jan 11 19:15	26°♄♂39'58	
morning rise	3421 Mar 13 05:50	12°♄♂29'48		opposition	3427 Mar 12 22:15	21°♄♂41'30	1°15'12
	3421 Jun 10 22:57	0°♄♂♂		min. Earth dist.	3427 Mar 12 16:31	21°♄♂43'24	4.39430 AU
retrograde	3421 Jul 21 15:17	2°♄♂32'47		direct	3427 May 13 08:24	16°♄♂38'55	
	3421 Aug 31 14:11	30°♄♂♂♂			3427 Aug 27 11:42	0°♄♂♂	
opposition	3421 Sep 19 19:21	27°♄♂34'43	-1°-21'-49	evening set	3427 Sep 16 21:28	4°♄♂17'35	
min. Earth dist.	3421 Sep 19 21:29	27°♄♂34'01	3.98112 AU				
direct	3421 Nov 17 17:29	22°♄♂40'46		conjunction	3427 Sep 30 03:19	7°♄♂08'55	0°59'01
	3422 Jan 26 12:21	0°♄♂♂		minimum elong	3427 Sep 30 03:18	7°♄♂08'54	0°59'01
evening set	3422 Mar 23 09:00	12°♄♂22'26		max. Earth dist.	3427 Sep 29 21:53	7°♄♂05'59	6.43671 AU
				morning rise	3427 Oct 13 06:34	9°♄♂58'55	
conjunction	3422 Apr 05 11:49	15°♄♂33'17	-1°00'-25	retrograde	3428 Feb 10 18:49	26°♄♂47'57	
minimum elong	3422 Apr 05 11:48	15°♄♂33'17	1°00'25	opposition	3428 Apr 11 07:04	21°♄♂52'51	1°29'47
max. Earth dist.	3422 Apr 06 02:27	15°♄♂42'10	5.94664 AU	min. Earth dist.	3428 Apr 11 19:25	21°♄♂48'51	4.46172 AU
morning rise	3422 Apr 18 17:13	18°♄♂45'42		direct	3428 Jun 12 15:18	16°♄♂50'15	
	3422 Jun 07 13:24	0°♄♂♂			3428 Sep 26 16:07	0°♄♂♄	
retrograde	3422 Aug 29 03:36	9°♄♂29'33		evening set	3428 Oct 17 00:04	4°♄♂15'53	

conjunction	3428 Oct 29 23:23	7°♄03'28	1°00'49	morning rise	3434 Apr 23 23:34	24°♃03'18	
minimum elong	3428 Oct 29 23:24	7°♄03'28	1°00'49		3434 May 19 06:09	0°♄	
max. Earth dist.	3428 Oct 28 16:27	6°♄46'46	6.46637 AU	retrograde	3434 Sep 03 09:27	14°♄47'01	
morning rise	3428 Nov 11 19:59	9°♄49'48		min. Earth dist.	3434 Nov 01 03:57	9°♄52'37	3.94230 AU
	3428 Dec 06 13:08	15°♄		opposition	3434 Nov 02 03:48	9°♄44'35	-1°-29'-7
retrograde	3429 Mar 11 23:03	26°♄32'20		direct	3434 Dec 30 02:04	4°♄50'21	
opposition	3429 May 11 17:19	21°♄39'34	1°20'36		3435 Mar 23 18:00	15°♄	
min. Earth dist.	3429 May 12 22:12	21°♄30'20	4.45284 AU	evening set	3435 May 05 01:01	24°♄37'12	
direct	3429 Jul 13 12:11	16°♄37'49					
	3429 Oct 28 00:41	0°♄		conjunction	3435 May 18 12:46	27°♄51'32	0°-51'-24
evening set	3429 Nov 16 12:10	4°♄08'46		minimum elong	3435 May 18 12:49	27°♄51'33	0°51'24
max. Earth dist.	3429 Nov 27 06:01	6°♄29'36	6.41901 AU	max. Earth dist.	3435 May 20 12:09	28°♄20'01	5.96219 AU
					3435 May 27 10:44	0°♄	
conjunction	3429 Nov 29 06:54	6°♄56'23	0°46'19	morning rise	3435 Jun 01 03:21	1°♄07'15	
minimum elong	3429 Nov 29 06:55	6°♄56'24	0°46'19	retrograde	3435 Oct 10 16:12	21°♄32'26	
morning rise	3429 Dec 11 23:34	9°♄43'07		min. Earth dist.	3435 Dec 07 18:48	16°♄39'31	4.00543 AU
retrograde	3430 Apr 12 06:19	26°♄48'22		opposition	3435 Dec 09 05:33	16°♄27'40	0°-57'-17
opposition	3430 Jun 12 03:49	21°♄56'23	0°49'32	direct	3436 Feb 05 06:50	11°♄31'06	
min. Earth dist.	3430 Jun 13 17:02	21°♄44'31	4.36982 AU		3436 Jun 06 16:30	0°♄	
direct	3430 Aug 13 15:41	16°♄56'12		evening set	3436 Jun 10 12:55	0°♄53'37	
	3430 Nov 25 03:15	0°♄					
evening set	3430 Dec 17 07:56	4°♄50'15		conjunction	3436 Jun 24 06:05	4°♄05'39	0°-22'00
max. Earth dist.	3430 Dec 27 21:18	7°♄12'27	6.30655 AU	minimum elong	3436 Jun 24 06:06	4°♄05'40	0°22'00
				max. Earth dist.	3436 Jun 26 15:41	4°♄39'18	6.06508 AU
conjunction	3430 Dec 30 00:47	7°♄41'27	0°18'36	morning rise	3436 Jul 08 00:46	7°♄18'12	
minimum elong	3430 Dec 30 00:48	7°♄41'28	0°18'36	retrograde	3436 Nov 13 14:45	26°♄43'38	
morning rise	3431 Jan 11 16:16	10°♄32'18		min. Earth dist.	3437 Jan 10 19:47	21°♄50'53	4.13612 AU
retrograde	3431 May 15 12:55	28°♄27'13		opposition	3437 Jan 12 05:51	21°♄39'18	0°-5'-34
opposition	3431 Jul 15 09:20	23°♄34'28	0°02'29	asc. node	3437 Feb 22 10:00	17°♄11'33	
min. Earth dist.	3431 Jul 16 20:21	23°♄23'16	4.23430 AU	direct	3437 Mar 12 04:01	16°♄39'51	
desc. node	3431 Aug 03 10:55	21°♄13'49			3437 Jun 22 05:31	0°♄	
direct	3431 Sep 14 22:30	18°♄36'35		evening set	3437 Jul 16 17:30	5°♄22'46	
	3431 Dec 17 07:21	0°♄					
evening set	3432 Jan 18 09:57	7°♄07'36		conjunction	3437 Jul 30 10:22	8°♄28'04	0°14'10
max. Earth dist.	3432 Jan 29 09:39	9°♄40'45	6.15899 AU	minimum elong	3437 Jul 30 10:20	8°♄28'04	0°14'10
				behind sun begin	3437 Jul 30 06:34	8°♄25'56	
conjunction	3432 Jan 31 03:18	10°♄05'01	0°-15'-57	behind sun end	3437 Jul 30 14:07	8°♄30'11	
minimum elong	3432 Jan 31 03:16	10°♄05'00	0°15'57	max. Earth dist.	3437 Aug 01 06:23	8°♄52'55	6.21209 AU
behind sun begin	3432 Jan 31 01:39	10°♄04'04		morning rise	3437 Aug 13 03:08	11°♄32'59	
behind sun end	3432 Jan 31 04:53	10°♄05'56			3437 Aug 28 18:26	15°♄	
morning rise	3432 Feb 12 21:02	13°♄02'52		retrograde	3437 Dec 16 04:42	29°♄48'10	
	3432 Feb 21 08:27	15°♄		min. Earth dist.	3438 Feb 13 03:52	24°♄53'37	4.28507 AU
	3432 May 13 04:47	0°♄		opposition	3438 Feb 14 00:54	24°♄46'34	0°44'37
retrograde	3432 Jun 19 06:33	2°♄05'57		direct	3438 Apr 15 07:46	19°♄44'54	
	3432 Jul 26 14:03	30°♄			3438 Jul 13 11:25	0°♄	
opposition	3432 Aug 18 19:33	27°♄10'52	0°-48'-40	evening set	3438 Aug 19 23:03	7°♄49'08	
min. Earth dist.	3432 Aug 19 16:30	27°♄04'03	4.08521 AU				
direct	3432 Oct 17 23:36	22°♄15'23		conjunction	3438 Sep 02 11:02	10°♄46'25	0°44'08
	3432 Dec 30 04:17	0°♄		minimum elong	3438 Sep 02 11:00	10°♄46'24	0°44'07
evening set	3433 Feb 20 10:32	11°♄28'01		max. Earth dist.	3438 Sep 03 07:01	10°♄57'22	6.35140 AU
				morning rise	3438 Sep 15 21:03	13°♄42'33	
conjunction	3433 Mar 05 07:41	14°♄32'53	0°-46'-39		3438 Dec 21 12:34	0°♄	
minimum elong	3433 Mar 05 07:39	14°♄32'52	0°46'41	retrograde	3439 Jan 15 23:24	1°♄01'16	
max. Earth dist.	3433 Mar 04 16:55	14°♄24'02	6.02168 AU		3439 Feb 10 07:56	30°♄	
morning rise	3433 Mar 18 06:24	17°♄38'53		opposition	3439 Mar 17 03:59	26°♄03'22	1°18'35
	3433 May 13 16:11	0°♄		min. Earth dist.	3439 Mar 17 00:00	26°♄04'41	4.40477 AU
retrograde	3433 Jul 27 00:51	7°♄48'29		direct	3439 May 17 16:27	21°♄00'47	
opposition	3433 Sep 25 03:28	2°♄49'53	-1°-25'-14		3439 Aug 09 16:55	0°♄	
min. Earth dist.	3433 Sep 25 02:24	2°♄50'14	3.97325 AU	evening set	3439 Sep 21 07:11	8°♄37'46	
	3433 Oct 18 00:03	30°♄					
direct	3433 Nov 22 21:38	27°♄56'05		conjunction	3439 Oct 04 12:01	11°♄28'30	1°00'14
	3433 Dec 28 08:58	0°♄		minimum elong	3439 Oct 04 12:00	11°♄28'29	1°00'14
evening set	3434 Mar 28 13:14	17°♄38'58		max. Earth dist.	3439 Oct 04 02:03	11°♄23'06	6.44240 AU
				morning rise	3439 Oct 17 14:23	14°♄17'55	
conjunction	3434 Apr 10 16:52	20°♄50'18	-1°-1'00		3440 Jan 19 12:20	0°♄	
minimum elong	3434 Apr 10 16:52	20°♄50'18	1°01'01	retrograde	3440 Feb 15 00:47	1°♄05'17	
max. Earth dist.	3434 Apr 11 10:58	21°♄01'18	5.94528 AU		3440 Mar 12 10:57	30°♄	

opposition	3440 Apr 15 12:41	26°♌10'40	1°29'51		3445 Apr 23 14:21	0°♑	
min. Earth dist.	3440 Apr 16 04:12	26°♌05'39	4.46257 AU	retrograde	3445 Aug 01 07:19	13°♑01'46	
direct	3440 Jun 16 23:52	21°♌08'10		opposition	3445 Sep 30 09:50	8°♑02'36	-1°-27'-59
	3440 Sep 08 21:22	0°♍		min. Earth dist.	3445 Sep 30 04:49	8°♑04'16	3.96393 AU
evening set	3440 Oct 21 07:09	8°♍34'17		direct	3445 Nov 28 00:07	3°♑08'50	
max. Earth dist.	3440 Nov 01 19:48	11°♍03'24	6.46224 AU	evening set	3446 Apr 02 16:44	22°♑53'59	
conjunction	3440 Nov 03 05:49	11°♍21'47	0°59'40	conjunction	3446 Apr 15 21:35	26°♑06'01	-1°-1'-7
minimum elong	3440 Nov 03 05:50	11°♍21'48	0°59'39	minimum elong	3446 Apr 15 21:35	26°♑06'01	1°01'08
morning rise	3440 Nov 16 01:46	14°♍08'03		max. Earth dist.	3446 Apr 16 20:54	26°♑20'11	5.94170 AU
	3440 Nov 20 02:41	15°♍		morning rise	3446 Apr 29 05:16	29°♑19'40	
	3441 Feb 20 10:32	0°♎			3446 May 02 00:23	0°♎	
retrograde	3441 Mar 16 06:17	0°♎52'38			3446 Jul 12 11:40	15°♎	
	3441 Apr 09 03:16	30°♏		retrograde	3446 Sep 08 16:56	20°♎04'14	
opposition	3441 May 16 01:36	26°♏00'04	1°17'23	min. Earth dist.	3446 Nov 06 08:27	15°♎09'47	3.94487 AU
min. Earth dist.	3441 May 17 07:11	25°♏50'36	4.44419 AU	opposition	3446 Nov 07 09:28	15°♎01'19	-1°-26'-35
direct	3441 Jul 17 19:25	20°♏58'30			3446 Nov 07 13:23	15°♏	
	3441 Oct 10 06:16	0°♐		direct	3447 Jan 04 07:33	10°♎06'50	
evening set	3441 Nov 20 19:22	8°♐31'58			3447 Feb 28 19:49	15°♎	
max. Earth dist.	3441 Dec 01 13:19	10°♐53'16	6.40648 AU	evening set	3447 May 10 06:53	29°♎52'13	
					3447 May 10 19:56	0°♏	
conjunction	3441 Dec 03 13:46	11°♐19'55	0°43'04	conjunction	3447 May 23 19:41	3°♏06'38	0°-48'-12
minimum elong	3441 Dec 03 13:47	11°♐19'56	0°43'04	minimum elong	3447 May 23 19:43	3°♏06'40	0°48'14
morning rise	3441 Dec 16 05:58	14°♐07'01		max. Earth dist.	3447 May 25 22:03	3°♏36'50	5.97056 AU
	3442 Mar 18 16:16	0°♑		morning rise	3447 Jun 06 11:13	6°♏22'22	
retrograde	3442 Apr 16 19:17	1°♑17'37		retrograde	3447 Oct 15 16:46	26°♏41'43	
	3442 May 16 00:44	30°♒		min. Earth dist.	3447 Dec 12 18:08	21°♏49'05	4.01867 AU
opposition	3442 Jun 16 17:05	26°♒25'39	0°43'37	opposition	3447 Dec 14 06:01	21°♏36'52	0°-50'-43
min. Earth dist.	3442 Jun 18 06:40	26°♒13'41	4.35400 AU	direct	3448 Feb 10 08:16	16°♏39'53	
direct	3442 Aug 18 03:04	21°♒25'48			3448 May 20 07:01	0°♑	
	3442 Nov 06 21:47	0°♑		evening set	3448 Jun 15 16:44	5°♑58'10	
evening set	3442 Dec 21 18:03	9°♑23'59					
max. Earth dist.	3443 Jan 01 06:45	11°♑46'28	6.28847 AU	conjunction	3448 Jun 29 10:07	9°♑09'34	0°-16'-59
conjunction	3443 Jan 03 10:40	12°♑15'50	0°13'56	minimum elong	3448 Jun 29 10:08	9°♑09'35	0°17'00
minimum elong	3443 Jan 03 10:40	12°♑15'51	0°13'55	max. Earth dist.	3448 Jul 01 17:43	9°♑41'54	6.08183 AU
behind sun begin	3443 Jan 03 06:26	12°♑13'27		morning rise	3448 Jul 13 05:03	12°♑21'24	
behind sun end	3443 Jan 03 14:54	12°♑18'14			3448 Oct 17 08:20	0°♒	
morning rise	3443 Jan 16 02:25	15°♑07'29		retrograde	3448 Nov 18 08:07	1°♒37'57	
	3443 Apr 04 02:38	0°♓			3448 Dec 20 01:37	30°♒	
retrograde	3443 May 20 09:31	3°♓10'32		asc. node	3449 Jan 01 22:39	28°♓32'59	
desc. node	3443 Jun 12 23:13	2°♓19'08		opposition	3449 Jan 16 23:31	26°♓33'51	0°02'02
	3443 Jul 06 13:52	30°♓		min. Earth dist.	3449 Jan 15 15:05	26°♓44'52	4.15456 AU
opposition	3443 Jul 20 05:08	28°♓17'30	0°-4'-50	direct	3449 Mar 17 02:26	21°♓33'59	
min. Earth dist.	3443 Jul 21 14:37	28°♓06'46	4.21491 AU		3449 Jun 03 01:20	0°♒	
direct	3443 Sep 19 14:12	23°♓19'53		evening set	3449 Jul 21 16:07	10°♒11'59	
	3443 Nov 27 08:20	0°♓					
evening set	3444 Jan 23 00:59	11°♓56'07		conjunction	3449 Aug 04 08:43	13°♒16'19	0°19'01
max. Earth dist.	3444 Feb 03 05:09	14°♓32'27	6.13985 AU	minimum elong	3449 Aug 04 08:41	13°♒16'18	0°19'01
				max. Earth dist.	3449 Aug 06 03:33	13°♒40'24	6.23098 AU
conjunction	3444 Feb 04 18:48	14°♓54'29	0°-20'-46		3449 Aug 12 01:21	15°♒	
minimum elong	3444 Feb 04 18:47	14°♓54'28	0°20'47	morning rise	3449 Aug 18 00:38	16°♒20'04	
	3444 Feb 05 04:15	15°♓			3449 Oct 26 20:45	0°♑	
morning rise	3444 Feb 17 12:53	17°♓53'19		retrograde	3449 Dec 20 15:39	4°♑26'49	
	3444 Apr 14 10:44	0°♒			3450 Feb 14 05:50	30°♒	
retrograde	3444 Jun 24 10:33	7°♒05'41		opposition	3450 Feb 18 12:33	29°♒25'45	0°50'39
opposition	3444 Aug 23 22:03	2°♒10'10	0°-55'-7	min. Earth dist.	3450 Feb 17 16:53	29°♒32'19	4.30302 AU
min. Earth dist.	3444 Aug 24 16:49	2°♒04'04	4.06788 AU	direct	3450 Apr 19 22:56	24°♒23'57	
	3444 Sep 10 04:30	30°♒			3450 Jun 22 07:04	0°♑	
direct	3444 Oct 22 21:08	27°♒15'01		evening set	3450 Aug 24 15:41	12°♑23'56	
	3444 Dec 03 17:14	0°♒					
evening set	3445 Feb 25 08:15	16°♒32'21		conjunction	3450 Sep 07 02:34	15°♑20'08	0°47'22
				minimum elong	3450 Sep 07 02:32	15°♑20'07	0°47'21
conjunction	3445 Mar 10 05:56	19°♒38'08	0°-49'-53	max. Earth dist.	3450 Sep 07 17:47	15°♑28'27	6.36727 AU
minimum elong	3445 Mar 10 05:55	19°♒38'07	0°49'54	morning rise	3450 Sep 20 11:41	18°♑15'13	
max. Earth dist.	3445 Mar 09 17:59	19°♒30'57	6.00754 AU		3450 Nov 19 11:44	0°♑	
morning rise	3445 Mar 23 05:45	22°♒45'13		retrograde	3451 Jan 20 07:05	5°♑27'54	

opposition	3451 Mar 21 12:08	0°♄30'29	1°21'37	morning rise	3456 Feb 22 01:08	22°♈33'04	
min. Earth dist.	3451 Mar 21 11:03	0°♄30'50	4.41789 AU		3456 Mar 26 03:15	0°♈	
	3451 Mar 25 09:07	30°♈♈		retrograde	3456 Jun 29 08:55	11°♈54'37	
direct	3451 May 22 05:01	25°♈27'52		opposition	3456 Aug 28 20:09	6°♈58'41	-1°00'-57
	3451 Jul 18 13:47	0°♄		min. Earth dist.	3456 Aug 29 12:10	6°♈53'28	4.04990 AU
evening set	3451 Sep 25 17:56	13°♄01'44		direct	3456 Oct 27 13:54	2°♈03'44	
				evening set	3457 Mar 02 02:32	21°♈26'35	
conjunction	3451 Oct 08 21:55	15°♄51'42	1°01'10				
minimum elong	3451 Oct 08 21:55	15°♄51'42	1°01'10	conjunction	3457 Mar 15 01:10	24°♈33'29	0°-52'-39
max. Earth dist.	3451 Oct 08 10:14	15°♄45'24	6.45206 AU	minimum elong	3457 Mar 15 01:08	24°♈33'28	0°52'40
morning rise	3451 Oct 21 23:05	18°♄40'19		max. Earth dist.	3457 Mar 14 17:46	24°♈29'01	5.99155 AU
	3451 Dec 19 10:32	0°♈		morning rise	3457 Mar 28 01:48	27°♈41'41	
retrograde	3452 Feb 19 04:50	5°♈24'36			3457 Apr 06 18:22	0°♈	
opposition	3452 Apr 19 19:18	0°♈30'18	1°29'29	retrograde	3457 Aug 06 13:46	18°♈06'10	
min. Earth dist.	3452 Apr 20 11:39	0°♈25'02	4.46844 AU	opposition	3457 Oct 05 12:48	13°♈06'33	-1°-30'-1
	3452 Apr 23 17:23	30°♈♈		min. Earth dist.	3457 Oct 05 06:16	13°♈08'43	3.95163 AU
direct	3452 Jun 21 07:33	25°♄27'56		direct	3457 Dec 03 00:13	8°♈12'49	
	3452 Aug 18 03:37	0°♈		evening set	3458 Apr 07 17:56	28°♈01'51	
evening set	3452 Oct 25 14:10	12°♈52'29			3458 Apr 15 20:52	0°♈	
	3452 Nov 04 10:47	15°♈					
max. Earth dist.	3452 Nov 05 23:37	15°♈19'56	6.46394 AU	conjunction	3458 Apr 20 23:59	1°♈14'49	-1°00'-46
				minimum elong	3458 Apr 21 00:00	1°♈14'49	1°00'46
conjunction	3452 Nov 07 11:53	15°♈39'34	0°58'15	max. Earth dist.	3458 Apr 22 02:57	1°♈31'12	5.93428 AU
minimum elong	3452 Nov 07 11:54	15°♈39'34	0°58'15	morning rise	3458 May 04 09:03	4°♈29'25	
morning rise	3452 Nov 20 07:06	18°♈25'28			3458 Jun 19 15:05	15°♈	
	3453 Jan 19 03:25	0°♈		retrograde	3458 Sep 13 21:53	25°♈16'21	
retrograde	3453 Mar 20 13:31	5°♈10'09		min. Earth dist.	3458 Nov 11 09:18	20°♈22'31	3.94342 AU
opposition	3453 May 20 09:10	0°♈17'46	1°13'51	opposition	3458 Nov 12 13:03	20°♈13'07	-1°-23'-29
min. Earth dist.	3453 May 21 17:01	0°♈07'36	4.44148 AU	direct	3459 Jan 09 08:09	15°♈18'27	
	3453 May 22 16:50	30°♈♈			3459 Apr 23 19:41	0°♈	
direct	3453 Jul 22 04:33	25°♈16'22		evening set	3459 May 15 12:08	5°♈04'17	
	3453 Sep 19 01:55	0°♈					
evening set	3453 Nov 25 00:45	12°♈50'13		conjunction	3459 May 29 01:53	8°♈18'59	0°-44'-42
max. Earth dist.	3453 Dec 05 16:07	15°♈10'24	6.39945 AU	minimum elong	3459 May 29 01:55	8°♈19'00	0°44'43
				max. Earth dist.	3459 May 31 05:16	8°♈49'43	5.97516 AU
conjunction	3453 Dec 07 18:38	15°♈38'14	0°39'41	morning rise	3459 Jun 11 18:26	11°♈34'55	
minimum elong	3453 Dec 07 18:40	15°♈38'15	0°39'41		3459 Sep 16 21:02	0°♈	
morning rise	3453 Dec 20 10:34	18°♈25'29		retrograde	3459 Oct 20 17:05	1°♈49'57	
	3454 Feb 16 19:39	0°♈			3459 Nov 23 07:47	30°♈♈	
retrograde	3454 Apr 21 05:00	5°♈39'47		min. Earth dist.	3459 Dec 17 17:33	26°♈57'25	4.02862 AU
opposition	3454 Jun 21 03:53	0°♈47'42	0°37'40	opposition	3459 Dec 19 05:54	26°♈45'01	0°-43'-51
min. Earth dist.	3454 Jun 22 17:13	0°♈35'48	4.34286 AU	direct	3460 Feb 15 10:33	21°♈47'38	
	3454 Jun 27 10:06	30°♈♈			3460 Apr 30 14:52	0°♈	
direct	3454 Aug 22 11:14	25°♈48'03		evening set	3460 Jun 20 20:58	11°♈03'01	
	3454 Oct 16 00:04	0°♈					
evening set	3454 Dec 26 00:41	13°♈48'52		conjunction	3460 Jul 04 14:51	14°♈13'55	0°-11'-53
max. Earth dist.	3455 Jan 05 15:04	16°♈12'44	6.27408 AU	minimum elong	3460 Jul 04 14:52	14°♈13'56	0°11'55
				behind sun begin	3460 Jul 04 09:11	14°♈10'39	
conjunction	3455 Jan 07 17:17	16°♈41'15	0°09'23	behind sun end	3460 Jul 04 20:33	14°♈17'13	
minimum elong	3455 Jan 07 17:18	16°♈41'15	0°09'23	max. Earth dist.	3460 Jul 06 23:47	14°♈46'55	6.09647 AU
behind sun begin	3455 Jan 07 10:36	16°♈37'28		morning rise	3460 Jul 18 09:41	17°♈25'03	
behind sun end	3455 Jan 08 00:00	16°♈45'03			3460 Sep 16 17:42	0°♈	
morning rise	3455 Jan 20 08:57	19°♈33'29		asc. node	3460 Nov 11 09:01	6°♈19'41	
	3455 Mar 11 03:11	0°♈		retrograde	3460 Nov 23 02:48	6°♈33'15	
desc. node	3455 Apr 24 21:51	6°♈20'01		min. Earth dist.	3461 Jan 20 09:43	1°♈40'12	4.17212 AU
retrograde	3455 May 25 02:48	7°♈43'40		opposition	3461 Jan 21 17:26	1°♈29'27	0°09'35
opposition	3455 Jul 24 21:19	2°♈50'25	0°-11'-50		3461 Feb 01 21:49	30°♈♈	
min. Earth dist.	3455 Jul 26 06:45	2°♈39'41	4.19793 AU	direct	3461 Mar 21 23:47	26°♈29'16	
	3455 Aug 17 11:04	30°♈♈			3461 May 09 03:00	0°♈	
direct	3455 Sep 24 03:10	27°♈53'07		evening set	3461 Jul 26 15:21	15°♈02'29	
	3455 Oct 31 08:26	0°♈			3461 Jul 26 10:53	15°♈	
	3456 Jan 20 18:07	15°♈					
evening set	3456 Jan 27 12:23	16°♈33'58		conjunction	3461 Aug 09 07:15	18°♈05'45	0°23'43
max. Earth dist.	3456 Feb 07 17:04	19°♈11'17	6.12164 AU	minimum elong	3461 Aug 09 07:14	18°♈05'44	0°23'44
				max. Earth dist.	3461 Aug 10 22:46	18°♈27'51	6.24980 AU
conjunction	3456 Feb 09 06:22	19°♈33'11	0°-25'-15	morning rise	3461 Aug 22 22:35	21°♈08'21	
minimum elong	3456 Feb 09 06:20	19°♈33'10	0°25'16		3461 Oct 04 03:48	0°♈	





































































































































retrograde	3461 Dec 25 02:13	9° \cap 06'37		retrograde	3467 May 30 00:41	12° \approx 32'15	
min. Earth dist.	3462 Feb 22 06:58	4° \cap 11'49	4.32136 AU	opposition	3467 Jul 29 19:24	7° \approx 38'39	0°-19'-13
opposition	3462 Feb 23 00:40	4° \cap 05'55	0°56'20	min. Earth dist.	3467 Jul 31 02:28	7° \approx 28'39	4.17522 AU
	3462 Mar 31 06:58	30° \mathbb{R} Ω		direct	3467 Sep 28 19:40	2° \approx 41'38	
direct	3462 Apr 24 15:29	29° Ω 03'51			3468 Jan 03 14:45	15° \approx	
	3462 May 19 07:41	0° \cap		evening set	3468 Feb 01 06:12	21° \approx 29'06	
evening set	3462 Aug 29 07:59	16° \cap 59'11		max. Earth dist.	3468 Feb 12 15:37	24° \approx 09'55	6.09942 AU
conjunction	3462 Sep 11 18:01	19° \cap 54'20	0°50'18	conjunction	3468 Feb 14 00:44	24° \approx 29'28	0°-29'-52
minimum elong	3462 Sep 11 17:59	19° \cap 54'19	0°50'18	minimum elong	3468 Feb 14 00:43	24° \approx 29'27	0°29'53
max. Earth dist.	3462 Sep 12 07:05	20° \cap 01'28	6.38350 AU	morning rise	3468 Feb 26 20:04	27° \approx 30'34	
morning rise	3462 Sep 25 01:48	22° \cap 48'15			3468 Mar 08 12:53	0° \mathbb{H}	
	3462 Oct 29 18:26	0° Ω		retrograde	3468 Jul 04 17:42	17° \mathbb{H} 02'48	
retrograde	3463 Jan 24 13:21	9° Ω 54'50		opposition	3468 Sep 03 02:09	12° \mathbb{H} 06'25	-1°-6'-46
opposition	3463 Mar 25 20:10	4° Ω 57'52	1°24'10	min. Earth dist.	3468 Sep 03 16:13	12° \mathbb{H} 01'49	4.03021 AU
min. Earth dist.	3463 Mar 25 20:57	4° Ω 57'37	4.43065 AU	direct	3468 Nov 01 16:06	7° \mathbb{H} 11'43	
	3463 May 19 11:23	30° \mathbb{R} \cap		evening set	3469 Mar 07 04:24	26° \mathbb{H} 40'17	
direct	3463 May 26 16:03	29° \cap 55'14		conjunction	3469 Mar 20 03:56	29° \mathbb{H} 48'17	0°-55'-12
	3463 Jun 02 22:09	0° Ω		minimum elong	3469 Mar 20 03:55	29° \mathbb{H} 48'16	0°55'13
evening set	3463 Sep 30 04:38	17° Ω 26'06		max. Earth dist.	3469 Mar 20 00:44	29° \mathbb{H} 46'21	5.97627 AU
conjunction	3463 Oct 13 07:27	20° Ω 15'21	1°01'45		3469 Mar 20 23:18	0° \mathbb{Y}	
minimum elong	3463 Oct 13 07:27	20° Ω 15'21	1°01'45	morning rise	3469 Apr 02 05:48	2° \mathbb{Y} 57'43	
max. Earth dist.	3463 Oct 12 14:39	20° Ω 06'18	6.46001 AU	retrograde	3469 Aug 12 00:55	23° \mathbb{Y} 29'11	
morning rise	3463 Oct 26 07:45	23° Ω 03'16		opposition	3469 Oct 10 22:55	18° \mathbb{Y} 29'01	-1°-31'-26
	3463 Nov 29 02:51	0° \mathbb{M}		min. Earth dist.	3469 Oct 10 12:09	18° \mathbb{Y} 32'36	3.94295 AU
retrograde	3464 Feb 23 12:01	9° \mathbb{M} 45'14		direct	3469 Dec 08 05:29	13° \mathbb{Y} 35'20	
opposition	3464 Apr 24 02:22	4° \mathbb{M} 51'15	1°28'37		3470 Mar 29 16:33	0° \mathbb{B}	
min. Earth dist.	3464 Apr 24 22:01	4° \mathbb{M} 44'55	4.47105 AU	evening set	3470 Apr 13 02:14	3° \mathbb{B} 26'26	
	3464 Jun 14 15:36	30° \mathbb{R} Ω		conjunction	3470 Apr 26 09:24	6° \mathbb{B} 40'00	0°-59'-53
direct	3464 Jun 25 17:25	29° Ω 48'54		minimum elong	3470 Apr 26 09:25	6° \mathbb{B} 40'00	0°59'54
	3464 Jul 06 20:21	0° \mathbb{M}		max. Earth dist.	3470 Apr 27 16:34	6° \mathbb{B} 58'56	5.93311 AU
	3464 Oct 19 11:21	15° \mathbb{M}		morning rise	3470 May 09 19:43	9° \mathbb{B} 55'13	
evening set	3464 Oct 29 21:22	17° \mathbb{M} 13'03			3470 May 31 07:37	15° \mathbb{B}	
max. Earth dist.	3464 Nov 10 04:08	19° \mathbb{M} 39'11	6.46081 AU		3470 Aug 29 20:18	0° \mathbb{I}	
conjunction	3464 Nov 11 18:33	20° \mathbb{M} 00'00	0°56'29	retrograde	3470 Sep 19 06:18	0° \mathbb{I} 41'05	
minimum elong	3464 Nov 11 18:34	20° \mathbb{M} 00'00	0°56'30		3470 Oct 09 14:35	30° \mathbb{R} \mathbb{B}	
morning rise	3464 Nov 24 13:00	22° \mathbb{M} 45'46		opposition	3470 Nov 17 21:21	25° \mathbb{B} 37'25	-1°-19'-30
	3464 Dec 29 15:11	0° \mathbb{J}		min. Earth dist.	3470 Nov 16 15:21	25° \mathbb{B} 47'36	3.95012 AU
retrograde	3465 Mar 24 21:06	9° \mathbb{J} 32'25		direct	3471 Jan 14 17:12	20° \mathbb{B} 42'24	
opposition	3465 May 24 18:25	4° \mathbb{J} 40'07	1°09'49		3471 Apr 04 08:24	0° \mathbb{I}	
min. Earth dist.	3465 May 26 02:55	4° \mathbb{J} 29'45	4.43276 AU	evening set	3471 May 20 21:20	10° \mathbb{I} 25'09	
	3465 Jul 11 05:15	30° \mathbb{R} \mathbb{M}		conjunction	3471 Jun 03 12:07	13° \mathbb{I} 39'37	0°-40'-44
direct	3465 Jul 26 12:00	29° \mathbb{M} 38'54		minimum elong	3471 Jun 03 12:09	13° \mathbb{I} 39'38	0°40'45
	3465 Aug 10 21:57	0° \mathbb{J}		max. Earth dist.	3471 Jun 05 19:33	14° \mathbb{I} 12'39	5.98927 AU
evening set	3465 Nov 29 08:09	17° \mathbb{J} 15'09		morning rise	3471 Jun 17 05:13	16° \mathbb{I} 55'08	
max. Earth dist.	3465 Dec 09 22:26	19° \mathbb{J} 35'13	6.38571 AU		3471 Aug 17 03:01	0° \mathbb{G}	
conjunction	3465 Dec 12 01:38	20° \mathbb{J} 03'32	0°35'57	retrograde	3471 Oct 25 19:07	7° \mathbb{G} 01'28	
minimum elong	3465 Dec 12 01:39	20° \mathbb{J} 03'33	0°35'57	min. Earth dist.	3471 Dec 22 18:45	2° \mathbb{G} 08'56	4.04841 AU
morning rise	3465 Dec 24 17:19	22° \mathbb{J} 51'15		opposition	3471 Dec 24 07:15	1° \mathbb{G} 56'30	0°-36'-33
	3466 Jan 27 13:09	0° \mathbb{Z}			3472 Jan 07 23:01	30° \mathbb{R} \mathbb{I}	
retrograde	3466 Apr 25 20:51	10° \mathbb{Z} 11'43		direct	3472 Feb 20 15:00	26° \mathbb{I} 58'42	
opposition	3466 Jun 25 18:37	5° \mathbb{Z} 19'35	0°31'13		3472 Apr 04 04:46	0° \mathbb{G}	
min. Earth dist.	3466 Jun 27 09:14	5° \mathbb{Z} 07'16	4.32469 AU	evening set	3472 Jun 26 01:26	16° \mathbb{G} 07'24	
direct	3466 Aug 27 00:11	0° \mathbb{Z} 20'11		conjunction	3472 Jul 09 19:12	19° \mathbb{G} 17'12	0°-6'-43
evening set	3466 Dec 30 11:51	18° \mathbb{Z} 26'00		minimum elong	3472 Jul 09 19:13	19° \mathbb{G} 17'13	0°06'44
max. Earth dist.	3467 Jan 10 01:44	20° \mathbb{Z} 50'19	6.25289 AU	behind sun begin	3472 Jul 09 11:25	19° \mathbb{G} 12'44	
conjunction	3467 Jan 12 04:28	21° \mathbb{Z} 19'15	0°04'32	behind sun end	3472 Jul 10 03:01	19° \mathbb{G} 21'41	
minimum elong	3467 Jan 12 04:27	21° \mathbb{Z} 19'15	0°04'33	max. Earth dist.	3472 Jul 12 02:27	19° \mathbb{G} 49'03	6.11992 AU
behind sun begin	3467 Jan 11 20:38	21° \mathbb{Z} 14'49		morning rise	3472 Jul 23 13:58	22° \mathbb{G} 27'10	
behind sun end	3467 Jan 12 12:16	21° \mathbb{Z} 23'41			3472 Aug 26 23:17	0° Ω	
morning rise	3467 Jan 24 20:28	24° \mathbb{Z} 12'27		asc. node	3472 Sep 20 19:56	4° Ω 46'05	
	3467 Feb 20 01:36	0° \approx		retrograde	3472 Nov 27 16:39	11° Ω 23'58	
desc. node	3467 Mar 04 05:11	2° \approx 30'31		min. Earth dist.	3473 Jan 25 03:04	6° Ω 30'52	4.19684 AU

opposition	3473 Jan 26 09:52	6°Ω20'27	0°16'56	morning rise	3479 Jan 29 09:35	28°☾55'59	
direct	3473 Mar 26 20:29	1°Ω19'54			3479 Feb 03 02:10	0°≈	
	3473 Jul 09 13:04	15°Ω			3479 Apr 24 20:32	15°≈	
evening set	3473 Jul 31 11:56	19°Ω46'05		retrograde	3479 Jun 04 04:04	17°≈26'57	
					3479 Jul 14 21:17	15°≈	
conjunction	3473 Aug 14 03:13	22°Ω48'00	0°28'10	opposition	3479 Aug 03 20:23	12°≈33'06	0°-26'-34
minimum elong	3473 Aug 14 03:11	22°Ω47'59	0°28'10	min. Earth dist.	3479 Aug 05 02:15	12°≈23'28	4.15033 AU
max. Earth dist.	3473 Aug 15 15:38	23°Ω08'17	6.27381 AU	direct	3479 Oct 03 16:33	7°≈36'31	
morning rise	3473 Aug 27 17:28	25°Ω49'09			3479 Dec 14 17:17	15°≈	
	3473 Sep 16 00:14	0°♄		evening set	3480 Feb 06 02:44	26°≈31'14	
retrograde	3473 Dec 29 10:33	13°♄37'45					
opposition	3474 Feb 27 09:52	8°♄37'36	1°01'29	conjunction	3480 Feb 18 21:51	29°≈32'50	0°-34'-19
min. Earth dist.	3474 Feb 26 19:05	8°♄42'31	4.34261 AU	minimum elong	3480 Feb 18 21:49	29°≈32'49	0°34'19
direct	3474 Apr 29 05:46	3°♄35'24		max. Earth dist.	3480 Feb 17 16:10	29°≈15'14	6.07673 AU
evening set	3474 Sep 02 20:54	21°♄25'28			3480 Feb 20 19:40	0°✠	
				morning rise	3480 Mar 02 18:01	2°✠35'17	
conjunction	3474 Sep 16 05:50	24°♄19'31	0°52'50	retrograde	3480 Jul 10 03:12	22°✠18'08	
minimum elong	3474 Sep 16 05:48	24°♄19'30	0°52'51	opposition	3480 Sep 08 10:33	17°✠21'17	-1°-12'-7
max. Earth dist.	3474 Sep 16 13:26	24°♄23'38	6.40022 AU	min. Earth dist.	3480 Sep 08 20:06	17°✠18'09	4.01221 AU
morning rise	3474 Sep 29 12:38	27°♄12'20		direct	3480 Nov 06 18:19	12°✠26'54	
	3474 Oct 12 14:57	0°♅			3481 Mar 03 23:34	0°Υ	
retrograde	3475 Jan 28 17:25	14°♅13'18		evening set	3481 Mar 12 09:04	2°Υ00'29	
opposition	3475 Mar 30 01:29	9°♅16'47	1°26'10				
min. Earth dist.	3475 Mar 30 05:25	9°♅15'30	4.44197 AU	conjunction	3481 Mar 25 09:30	5°Υ09'26	0°-57'-18
direct	3475 May 31 00:51	4°♅14'06		minimum elong	3481 Mar 25 09:28	5°Υ09'26	0°57'20
evening set	3475 Oct 04 11:56	21°♅42'41		max. Earth dist.	3481 Mar 25 11:40	5°Υ10'46	5.96463 AU
				morning rise	3481 Apr 07 12:28	8°Υ19'54	
conjunction	3475 Oct 17 14:00	24°♅31'24	1°01'59	retrograde	3481 Aug 17 12:56	28°Υ56'25	
minimum elong	3475 Oct 17 14:00	24°♅31'24	1°01'59	opposition	3481 Oct 16 10:06	23°Υ55'37	-1°-32'-1
max. Earth dist.	3475 Oct 16 18:27	24°♅20'52	6.46506 AU	min. Earth dist.	3481 Oct 15 19:58	24°Υ00'21	3.93907 AU
morning rise	3475 Oct 30 13:13	27°♅18'46		direct	3481 Dec 13 14:21	19°Υ01'52	
	3475 Nov 12 05:45	0°♆			3482 Mar 10 23:09	0°♁	
retrograde	3476 Feb 27 15:31	13°♆59'48		evening set	3482 Apr 18 11:13	8°♁53'00	
opposition	3476 Apr 28 07:33	9°♆06'10	1°27'19				
min. Earth dist.	3476 Apr 29 05:16	8°♆59'12	4.46961 AU	conjunction	3482 May 01 19:40	12°♁06'57	0°-58'-29
direct	3476 Jun 29 23:15	4°♆04'00		minimum elong	3482 May 01 19:42	12°♁06'57	0°58'31
	3476 Oct 02 19:36	15°♆		max. Earth dist.	3482 May 03 08:59	12°♁29'34	5.93724 AU
evening set	3476 Nov 03 02:57	21°♆29'09			3482 May 13 17:43	15°♁	
max. Earth dist.	3476 Nov 14 04:57	23°♆53'06	6.45286 AU	morning rise	3482 May 15 06:59	15°♁22'26	
					3482 Jul 22 10:25	0°♂	
conjunction	3476 Nov 15 23:21	24°♆16'08	0°54'27	retrograde	3482 Sep 24 15:11	6°♂04'38	
minimum elong	3476 Nov 15 23:23	24°♆16'09	0°54'28	min. Earth dist.	3482 Nov 21 21:09	1°♂11'19	3.96173 AU
morning rise	3476 Nov 28 17:27	27°♆02'04		opposition	3482 Nov 23 04:40	1°♂00'37	-1°-14'-50
	3476 Dec 12 14:51	0°♁			3482 Nov 30 16:27	30°♂	
retrograde	3477 Mar 29 07:07	13°♁52'30		direct	3483 Jan 20 01:22	26°♂05'17	
opposition	3477 May 29 03:22	9°♁00'22	1°05'29		3483 Mar 10 10:20	0°♂	
min. Earth dist.	3477 May 30 14:25	8°♁49'11	4.41873 AU	evening set	3483 May 26 05:31	15°♂43'17	
direct	3477 Jul 30 20:42	3°♁59'21					
evening set	3477 Dec 03 15:25	21°♁39'52		conjunction	3483 Jun 08 20:51	18°♂57'12	0°-36'-28
max. Earth dist.	3477 Dec 14 04:36	23°♁59'57	6.36665 AU	minimum elong	3483 Jun 08 20:53	18°♂57'14	0°36'29
				max. Earth dist.	3483 Jun 11 04:46	19°♂30'22	6.00682 AU
conjunction	3477 Dec 16 08:49	24°♁28'57	0°32'03	morning rise	3483 Jun 22 14:38	22°♂12'09	
minimum elong	3477 Dec 16 08:50	24°♁28'58	0°32'03		3483 Jul 27 02:27	0°♂	
morning rise	3477 Dec 29 00:23	27°♁17'23		retrograde	3483 Oct 30 16:11	12°♂08'37	
	3478 Jan 10 09:39	0°♂		min. Earth dist.	3483 Dec 27 17:08	7°♂16'18	4.06992 AU
retrograde	3478 Apr 30 12:29	14°♂46'01		opposition	3483 Dec 29 06:08	7°♂03'41	0°-29'-4
opposition	3478 Jun 30 10:28	9°♂53'48	0°24'34	direct	3484 Feb 25 16:25	2°♂05'27	
min. Earth dist.	3478 Jul 01 23:57	9°♂41'50	4.30184 AU	evening set	3484 Jul 01 04:03	21°♂07'25	
direct	3478 Aug 31 11:12	4°♂54'47					
evening set	3479 Jan 04 00:29	23°♂07'17		conjunction	3484 Jul 14 21:45	24°♂16'07	0°-1'-31
desc. node	3479 Jan 11 15:21	24°♂51'40		minimum elong	3484 Jul 14 21:47	24°♂16'07	0°01'32
max. Earth dist.	3479 Jan 14 16:39	25°♂33'43	6.22814 AU	behind sun begin	3484 Jul 14 13:23	24°♂11'20	
				behind sun end	3484 Jul 15 06:10	24°♂20'55	
conjunction	3479 Jan 16 17:13	26°♂01'35	0°00'-27	max. Earth dist.	3484 Jul 17 02:53	24°♂46'34	6.14356 AU
minimum elong	3479 Jan 16 17:14	26°♂01'35	0°00'27	morning rise	3484 Jul 28 16:04	27°♂24'48	
behind sun begin	3479 Jan 16 09:16	25°♂57'03		asc. node	3484 Jul 31 05:39	27°♂59'42	
behind sun end	3479 Jan 17 01:11	26°♂06'08			3484 Aug 09 04:01	0°♂	

	3484 Nov 05 03:59	15°♏			3491 Jan 17 21:23	0°♊	
retrograde	3484 Dec 02 07:01	16°♏10'40		max. Earth dist.	3491 Jan 19 09:30	0°♊20'48	6.20615 AU
	3484 Dec 29 03:28	15°♏♏					
min. Earth dist.	3485 Jan 29 20:22	11°♏17'01	4.22025 AU	conjunction	3491 Jan 21 07:46	0°♊47'29	0°-5'-29
opposition	3485 Jan 31 00:23	11°♏07'33	0°24'06	minimum elong	3491 Jan 21 07:45	0°♊47'28	0°05'31
direct	3485 Mar 31 16:38	6°♏06'42		behind sun begin	3491 Jan 21 00:03	0°♊43'03	
	3485 Jun 20 21:36	15°♏		behind sun end	3491 Jan 21 15:27	0°♊51'53	
evening set	3485 Aug 05 07:00	24°♏26'39		morning rise	3491 Feb 03 00:25	3°♊42'55	
					3491 Mar 28 09:31	15°♊	
conjunction	3485 Aug 18 21:33	27°♏27'21	0°32'26	retrograde	3491 Jun 09 05:53	22°♊23'50	
minimum elong	3485 Aug 18 21:31	27°♏27'20	0°32'25	opposition	3491 Aug 08 22:09	17°♊29'39	0°-33'-51
max. Earth dist.	3485 Aug 20 06:13	27°♏45'27	6.29510 AU	min. Earth dist.	3491 Aug 10 00:39	17°♊21'06	4.12973 AU
	3485 Aug 30 09:29	0°♎			3491 Aug 29 04:13	15°♎	
morning rise	3485 Sep 01 10:53	0°♎27'11		direct	3491 Oct 08 12:37	12°♎33'29	
retrograde	3486 Jan 02 16:36	18°♎07'25			3491 Nov 17 06:06	15°♎	
opposition	3486 Mar 03 18:15	13°♎07'44	1°06'16		3492 Feb 04 08:06	0°♋	
min. Earth dist.	3486 Mar 03 05:35	13°♎11'57	4.36045 AU	evening set	3492 Feb 10 23:56	1°♋33'50	
direct	3486 May 03 17:59	8°♎05'23					
evening set	3486 Sep 07 09:15	25°♎51'23		conjunction	3492 Feb 23 19:29	4°♋36'24	0°-38'-32
				minimum elong	3492 Feb 23 19:27	4°♋36'23	0°38'32
conjunction	3486 Sep 20 17:13	28°♎44'30	0°55'06	max. Earth dist.	3492 Feb 22 18:07	4°♋21'18	6.05939 AU
minimum elong	3486 Sep 20 17:11	28°♎44'29	0°55'06	morning rise	3492 Mar 07 16:27	7°♋39'56	
max. Earth dist.	3486 Sep 20 20:39	28°♎46'22	6.41334 AU	retrograde	3492 Jul 15 12:19	27°♋31'14	
	3486 Sep 26 12:26	0°♎		opposition	3492 Sep 13 18:14	22°♋33'49	-1°-16'-51
morning rise	3486 Oct 03 22:50	1°♎36'21		min. Earth dist.	3492 Sep 14 00:25	22°♋31'46	3.99992 AU
retrograde	3487 Feb 01 22:14	18°♎32'56		direct	3492 Nov 11 22:21	17°♋39'38	
opposition	3487 Apr 03 07:14	13°♎36'54	1°27'45		3493 Feb 14 07:12	0°♌	
min. Earth dist.	3487 Apr 03 14:23	13°♎34'34	4.44972 AU	evening set	3493 Mar 17 12:10	7°♌15'58	
direct	3487 Jun 04 10:24	8°♎34'14					
evening set	3487 Oct 08 20:07	26°♎01'31		conjunction	3493 Mar 30 13:39	10°♌25'40	0°-58'-56
				minimum elong	3493 Mar 30 13:38	10°♌25'39	0°58'56
conjunction	3487 Oct 21 21:14	28°♎49'49	1°01'54	max. Earth dist.	3493 Mar 30 22:11	10°♌30'50	5.95861 AU
minimum elong	3487 Oct 21 21:14	28°♎49'49	1°01'54	morning rise	3493 Apr 12 17:35	13°♌36'51	
max. Earth dist.	3487 Oct 20 20:41	28°♎36'35	6.46672 AU		3493 Jun 30 19:12	0°♍	
	3487 Oct 27 07:30	0°♍		retrograde	3493 Aug 22 22:25	4°♍15'47	
morning rise	3487 Nov 03 19:43	1°♍36'49			3493 Oct 16 01:56	30°♍♌	
	3488 Jan 15 13:19	15°♍		opposition	3493 Oct 21 18:12	29°♌14'30	-1°-31'-46
retrograde	3488 Mar 02 21:39	18°♍17'50		min. Earth dist.	3493 Oct 21 01:21	29°♌20'09	3.94028 AU
	3488 Apr 19 22:42	15°♍♍		direct	3493 Dec 18 20:33	24°♌20'41	
opposition	3488 May 02 14:12	13°♍24'28	1°25'32		3494 Feb 16 23:29	0°♍	
min. Earth dist.	3488 May 03 14:28	13°♍16'40	4.46536 AU	evening set	3494 Apr 23 17:19	14°♍10'11	
direct	3488 Jul 04 07:06	8°♍22'20			3494 Apr 27 04:03	15°♍	
	3488 Sep 13 11:21	15°♍					
evening set	3488 Nov 07 09:48	25°♍49'10		conjunction	3494 May 07 02:36	17°♍24'11	0°-56'-39
max. Earth dist.	3488 Nov 18 10:26	28°♍12'43	6.44296 AU	minimum elong	3494 May 07 02:38	17°♍24'12	0°56'40
				max. Earth dist.	3494 May 08 18:16	17°♍48'10	5.94520 AU
conjunction	3488 Nov 20 05:50	28°♍36'21	0°52'05	morning rise	3494 May 20 15:05	20°♍39'46	
minimum elong	3488 Nov 20 05:52	28°♍36'22	0°52'05		3494 Jun 30 12:56	0°♎	
	3488 Nov 26 15:24	0°♎♎		retrograde	3494 Sep 29 16:42	11°♎16'44	
morning rise	3488 Dec 02 23:17	1°♎22'28		min. Earth dist.	3494 Nov 26 21:41	6°♎23'51	3.97559 AU
retrograde	3489 Apr 02 16:58	18°♎17'12		opposition	3494 Nov 28 07:11	6°♎12'28	-1°-9'-42
opposition	3489 Jun 02 14:21	13°♎25'09	1°00'40	direct	3495 Jan 25 04:32	1°♎16'45	
min. Earth dist.	3489 Jun 04 01:48	13°♎13'51	4.40386 AU	evening set	3495 May 31 09:27	20°♎49'43	
direct	3489 Aug 04 05:46	8°♎24'26					
evening set	3489 Dec 08 00:33	26°♎09'11		conjunction	3495 Jun 14 01:28	24°♎03'05	0°-32'-4
max. Earth dist.	3489 Dec 18 12:30	28°♎29'15	6.34794 AU	minimum elong	3495 Jun 14 01:30	24°♎03'06	0°32'05
				max. Earth dist.	3495 Jun 16 09:48	24°♎36'21	6.02525 AU
conjunction	3489 Dec 20 17:34	28°♎58'52	0°27'52	morning rise	3495 Jun 27 19:32	27°♎17'17	
minimum elong	3489 Dec 20 17:36	28°♎58'53	0°27'53		3495 Jul 09 12:28	0°♏	
	3489 Dec 25 07:05	0°♏		retrograde	3495 Nov 04 11:04	17°♏04'07	
morning rise	3490 Jan 02 09:13	1°♏48'04		min. Earth dist.	3496 Jan 01 13:36	12°♏11'20	4.09064 AU
retrograde	3490 May 05 07:56	19°♏24'47		opposition	3496 Jan 03 00:46	11°♏59'21	0°-21'-40
opposition	3490 Jul 05 04:37	14°♏32'26	0°17'36	direct	3496 Mar 01 15:31	7°♏00'45	
min. Earth dist.	3490 Jul 06 18:08	14°♏20'27	4.28047 AU	asc. node	3496 Jun 11 00:27	20°♏22'47	
direct	3490 Sep 05 02:48	9°♏33'45		evening set	3496 Jul 06 02:20	25°♏56'39	
desc. node	3490 Nov 20 12:49	17°♏29'17					
evening set	3491 Jan 08 14:45	27°♏52'11		conjunction	3496 Jul 19 19:57	29°♏04'21	0°03'35

minimum elong	3496 Jul 19 19:57	29° \mathfrak{G} 04'21	0°03'35	retrograde	3502 May 11 01:06	24° \mathfrak{Z} 03'41	
behind sun begin	3496 Jul 19 11:40	28° \mathfrak{G} 59'39		opposition	3502 Jul 10 22:24	19° \mathfrak{Z} 11'09	0°10'31
behind sun end	3496 Jul 20 04:15	29° \mathfrak{G} 09'04		min. Earth dist.	3502 Jul 12 10:35	18° \mathfrak{Z} 59'35	4.26148 AU
max. Earth dist.	3496 Jul 21 23:17	29° \mathfrak{G} 33'37	6.16483 AU	direct	3502 Sep 10 16:39	14° \mathfrak{Z} 12'49	
	3496 Jul 23 21:35	0° \mathfrak{Q}		desc. node	3502 Sep 30 23:58	14° \mathfrak{Z} 50'50	
morning rise	3496 Aug 02 13:52	2° \mathfrak{Q} 11'54			3503 Jan 02 17:16	0° \approx	
	3496 Oct 04 12:38	15° \mathfrak{Q}		evening set	3503 Jan 14 04:15	2° \approx 36'10	
retrograde	3496 Dec 06 16:26	20° \mathfrak{Q} 48'14		max. Earth dist.	3503 Jan 25 00:33	5° \approx 06'24	6.18665 AU
min. Earth dist.	3497 Feb 03 08:44	15° \mathfrak{Q} 54'37	4.24025 AU				
opposition	3497 Feb 04 11:29	15° \mathfrak{Q} 45'36	0°30'51	conjunction	3503 Jan 26 21:16	5° \approx 32'17	0°-10'-24
	3497 Feb 10 03:35	15° \mathfrak{R} \mathfrak{Q}		minimum elong	3503 Jan 26 21:16	5° \approx 32'17	0°10'26
direct	3497 Apr 05 06:58	10° \mathfrak{Q} 44'33		behind sun begin	3503 Jan 26 14:56	5° \approx 28'38	
	3497 May 29 06:33	15° \mathfrak{Q}		behind sun end	3503 Jan 27 03:35	5° \approx 35'56	
evening set	3497 Aug 09 23:02	28° \mathfrak{Q} 59'44		morning rise	3503 Feb 08 14:25	8° \approx 28'44	
	3497 Aug 14 12:36	0° \mathfrak{P}			3503 Mar 09 19:20	15° \approx	
conjunction	3497 Aug 23 12:44	1° \mathfrak{P} 59'23	0°36'21	retrograde	3503 Jun 15 08:22	27° \approx 18'52	
minimum elong	3497 Aug 23 12:42	1° \mathfrak{P} 59'22	0°36'21	opposition	3503 Aug 14 22:59	22° \approx 24'15	0°-40'-51
max. Earth dist.	3497 Aug 24 16:15	2° \mathfrak{P} 14'35	6.31241 AU	min. Earth dist.	3503 Aug 15 23:21	22° \approx 16'21	4.11094 AU
morning rise	3497 Sep 06 01:11	4° \mathfrak{P} 58'07		direct	3503 Oct 14 09:24	17° \approx 28'19	
retrograde	3498 Jan 06 23:26	22° \mathfrak{P} 31'44			3504 Jan 19 05:14	0° \mathfrak{H}	
opposition	3498 Mar 08 00:48	17° \mathfrak{P} 32'40	1°10'33	evening set	3504 Feb 16 19:39	6° \mathfrak{H} 33'41	
min. Earth dist.	3498 Mar 07 15:49	17° \mathfrak{P} 35'38	4.37395 AU	conjunction	3504 Feb 29 15:55	9° \mathfrak{H} 37'14	0°-42'-25
direct	3498 May 08 05:37	12° \mathfrak{P} 30'14		minimum elong	3504 Feb 29 15:53	9° \mathfrak{H} 37'13	0°42'27
	3498 Sep 10 18:23	0° \mathfrak{A}		max. Earth dist.	3504 Feb 28 19:23	9° \mathfrak{H} 24'59	6.04301 AU
evening set	3498 Sep 11 19:52	0° \mathfrak{A} 13'41		morning rise	3504 Mar 13 13:31	12° \mathfrak{H} 41'48	
					3504 Jun 09 22:31	0° \mathfrak{Y}	
conjunction	3498 Sep 25 02:59	3° \mathfrak{A} 06'07	0°57'01	retrograde	3504 Jul 21 19:36	2° \mathfrak{Y} 41'05	
minimum elong	3498 Sep 25 02:58	3° \mathfrak{A} 06'06	0°57'00		3504 Sep 01 23:44	30° \mathfrak{R} \mathfrak{H}	
max. Earth dist.	3498 Sep 25 02:38	3° \mathfrak{A} 05'55	6.42211 AU	opposition	3504 Sep 20 00:01	27° \mathfrak{H} 43'09	-1°-20'-59
morning rise	3498 Oct 08 07:36	5° \mathfrak{A} 57'13		min. Earth dist.	3504 Sep 20 03:22	27° \mathfrak{H} 42'03	3.98773 AU
retrograde	3499 Feb 06 01:41	22° \mathfrak{A} 51'00		direct	3504 Nov 17 23:26	22° \mathfrak{H} 49'08	
opposition	3499 Apr 07 12:24	17° \mathfrak{A} 55'25	1°28'49		3505 Jan 26 02:35	0° \mathfrak{Y}	
min. Earth dist.	3499 Apr 07 21:25	17° \mathfrak{A} 52'29	4.45362 AU	evening set	3505 Mar 23 14:24	12° \mathfrak{Y} 28'34	
direct	3499 Jun 08 17:10	12° \mathfrak{A} 52'48					
	3499 Oct 11 14:12	0° \mathfrak{M}		conjunction	3505 Apr 05 16:42	15° \mathfrak{Y} 38'59	-1°00'-5
evening set	3499 Oct 13 03:30	0° \mathfrak{M} 19'55		minimum elong	3505 Apr 05 16:42	15° \mathfrak{Y} 38'59	1°00'05
max. Earth dist.	3499 Oct 25 01:08	2° \mathfrak{M} 53'32	6.46558 AU	max. Earth dist.	3505 Apr 06 04:13	15° \mathfrak{Y} 45'59	5.95156 AU
				morning rise	3505 Apr 18 21:55	18° \mathfrak{Y} 51'02	
conjunction	3499 Oct 26 03:52	3° \mathfrak{M} 07'57	1°01'27		3505 Jun 07 08:46	0° \mathfrak{B}	
minimum elong	3499 Oct 26 03:52	3° \mathfrak{M} 07'58	1°01'27	retrograde	3505 Aug 29 04:59	9° \mathfrak{B} 32'44	
morning rise	3499 Nov 08 01:29	5° \mathfrak{M} 54'42		min. Earth dist.	3505 Oct 27 04:18	4° \mathfrak{B} 37'43	3.93934 AU
	3499 Dec 23 07:22	15° \mathfrak{M}		opposition	3505 Oct 28 00:35	4° \mathfrak{B} 30'54	-1°-30'-50
retrograde	3500 Mar 08 04:02	22° \mathfrak{M} 36'41			3505 Dec 10 02:46	30° \mathfrak{R} \mathfrak{Y}	
opposition	3500 May 07 21:18	17° \mathfrak{M} 43'38	1°23'17	direct	3505 Dec 25 00:44	29° \mathfrak{Y} 36'52	
min. Earth dist.	3500 May 08 23:30	17° \mathfrak{M} 35'14	4.45936 AU		3506 Jan 08 23:33	0° \mathfrak{B}	
	3500 May 30 09:47	15° \mathfrak{R} \mathfrak{M}			3506 Apr 11 05:00	15° \mathfrak{B}	
direct	3500 Jul 09 15:27	12° \mathfrak{M} 41'43		evening set	3506 Apr 29 22:50	19° \mathfrak{B} 25'54	
	3500 Aug 18 22:23	15° \mathfrak{M}					
	3500 Nov 11 21:21	0° \mathfrak{J}		conjunction	3506 May 13 09:21	22° \mathfrak{B} 40'12	0°-54'-22
evening set	3500 Nov 12 16:44	0° \mathfrak{J} 10'29		minimum elong	3506 May 13 09:23	22° \mathfrak{B} 40'13	0°54'22
max. Earth dist.	3500 Nov 23 13:45	2° \mathfrak{J} 32'32	6.43247 AU	max. Earth dist.	3506 May 15 04:46	23° \mathfrak{B} 06'24	5.95045 AU
				morning rise	3506 May 26 22:44	25° \mathfrak{B} 55'58	
conjunction	3500 Nov 25 12:07	2° \mathfrak{J} 57'50	0°49'25		3506 Jun 13 04:52	0° \mathfrak{I}	
minimum elong	3500 Nov 25 12:08	2° \mathfrak{J} 57'51	0°49'24	retrograde	3506 Oct 05 20:23	16° \mathfrak{I} 28'51	
morning rise	3500 Dec 08 05:18	5° \mathfrak{J} 44'14		min. Earth dist.	3506 Dec 03 00:07	11° \mathfrak{I} 35'43	3.98625 AU
retrograde	3501 Apr 08 04:31	22° \mathfrak{J} 43'25		opposition	3506 Dec 04 09:38	11° \mathfrak{I} 24'18	-1°-4'-5
opposition	3501 Jun 08 01:52	17° \mathfrak{J} 51'24	0°55'29	direct	3507 Jan 31 08:47	6° \mathfrak{I} 28'11	
min. Earth dist.	3501 Jun 09 14:03	17° \mathfrak{J} 39'52	4.38948 AU	evening set	3507 Jun 06 14:06	25° \mathfrak{I} 57'23	
direct	3501 Aug 09 16:10	12° \mathfrak{J} 50'53					
	3501 Dec 10 10:15	0° \mathfrak{Z}		conjunction	3507 Jun 20 06:44	29° \mathfrak{I} 10'20	0°-27'-24
evening set	3501 Dec 13 09:27	0° \mathfrak{Z} 39'25		minimum elong	3507 Jun 20 06:45	29° \mathfrak{I} 10'21	0°27'25
max. Earth dist.	3501 Dec 23 22:51	3° \mathfrak{Z} 00'49	6.33079 AU	max. Earth dist.	3507 Jun 22 16:14	29° \mathfrak{I} 44'08	6.04023 AU
					3507 Jun 23 19:14	0° \mathfrak{G}	
conjunction	3501 Dec 26 02:28	3° \mathfrak{Z} 29'44	0°23'32	morning rise	3507 Jul 04 01:12	2° \mathfrak{G} 23'59	
minimum elong	3501 Dec 26 02:29	3° \mathfrak{Z} 29'45	0°23'32	retrograde	3507 Nov 10 05:54	22° \mathfrak{G} 02'15	
morning rise	3502 Jan 07 17:55	6° \mathfrak{Z} 19'35		min. Earth dist.	3508 Jan 07 08:56	17° \mathfrak{G} 09'39	4.10835 AU

opposition	3508 Jan 08 20:12	16°☾57'40	0°-14'-4	minimum elong	3513 Dec 30 08:26	7°☾53'28	0°19'13
direct	3508 Mar 07 13:20	11°☾58'40		morning rise	3514 Jan 11 23:58	10°☾43'48	
asc. node	3508 Apr 21 15:22	15°☾08'25		retrograde	3514 May 15 15:56	28°☾33'57	
	3508 Jul 08 10:32	0°♌		opposition	3514 Jul 15 13:04	23°☾41'12	0°03'39
evening set	3508 Jul 12 02:41	0°♌49'39		min. Earth dist.	3514 Jul 17 00:39	23°☾29'49	4.24650 AU
				desc. node	3514 Aug 12 22:11	20°☾22'29	
conjunction	3508 Jul 25 19:57	3°♌56'23	0°08'38	direct	3514 Sep 15 04:15	18°☾43'06	
minimum elong	3508 Jul 25 19:57	3°♌56'23	0°08'38		3514 Dec 17 03:53	0°≈	
behind sun begin	3508 Jul 25 12:45	3°♌52'19		evening set	3515 Jan 18 13:59	7°≈10'22	
behind sun end	3508 Jul 26 03:10	4°♌00'28		max. Earth dist.	3515 Jan 29 13:17	9°≈42'50	6.16996 AU
max. Earth dist.	3508 Jul 27 19:36	4°♌23'26	6.18374 AU				
morning rise	3508 Aug 08 13:29	7°♌02'54		conjunction	3515 Jan 31 07:20	10°≈07'17	0°-15'-3
	3508 Sep 14 12:10	15°♌		minimum elong	3515 Jan 31 07:18	10°≈07'16	0°15'03
retrograde	3508 Dec 12 05:40	25°♌30'24		behind sun begin	3515 Jan 31 04:10	10°≈05'27	
min. Earth dist.	3509 Feb 09 00:38	20°♌36'17	4.25871 AU	behind sun end	3515 Jan 31 10:27	10°≈09'05	
opposition	3509 Feb 10 00:36	20°♌28'13	0°37'32	morning rise	3515 Feb 13 00:40	13°≈04'32	
direct	3509 Apr 11 01:37	15°♌26'53			3515 Feb 21 09:41	15°≈	
	3509 Jul 29 21:49	0°♍			3515 May 14 13:31	0°✠	
evening set	3509 Aug 15 17:08	3°♍37'40		retrograde	3515 Jun 20 06:06	2°✠03'07	
					3515 Jul 27 03:13	30°☿≈	
conjunction	3509 Aug 29 06:12	6°♍36'19	0°40'09	opposition	3515 Aug 19 19:18	27°≈08'11	0°-47'-16
minimum elong	3509 Aug 29 06:10	6°♍36'18	0°40'10	min. Earth dist.	3515 Aug 20 18:23	27°≈00'42	4.09378 AU
max. Earth dist.	3509 Aug 30 07:44	6°♍50'22	6.32923 AU	direct	3515 Oct 19 01:02	22°≈12'34	
morning rise	3509 Sep 11 17:32	9°♍33'55			3515 Dec 31 13:48	0°✠	
retrograde	3510 Jan 12 06:19	27°♍00'53		evening set	3516 Feb 21 11:32	11°✠22'58	
opposition	3510 Mar 13 09:34	22°♍02'22	1°14'33				
min. Earth dist.	3510 Mar 13 01:48	22°♍04'55	4.38834 AU	conjunction	3516 Mar 05 08:17	14°✠27'28	0°-45'-52
direct	3510 May 13 17:10	16°♍59'56		minimum elong	3516 Mar 05 08:16	14°✠27'27	0°45'53
	3510 Aug 26 02:51	0°♎		max. Earth dist.	3516 Mar 04 13:18	14°✠16'06	6.02678 AU
evening set	3510 Sep 17 08:23	4°♎40'11		morning rise	3516 Mar 18 06:55	17°✠33'10	
					3516 May 14 06:27	0°☿	
conjunction	3510 Sep 30 14:21	7°♎31'44	0°58'40	retrograde	3516 Jul 26 21:32	7°☿40'48	
minimum elong	3510 Sep 30 14:20	7°♎31'43	0°58'40	opposition	3516 Sep 25 01:23	2°☿42'23	-1°-24'-22
max. Earth dist.	3510 Sep 30 10:04	7°♎29'25	6.43329 AU	min. Earth dist.	3516 Sep 25 01:33	2°☿42'20	3.97407 AU
morning rise	3510 Oct 13 17:57	10°♎22'00			3516 Oct 16 18:43	30°☿✠	
retrograde	3511 Feb 11 08:23	27°♎12'02		direct	3516 Nov 22 20:18	27°✠48'28	
opposition	3511 Apr 12 19:27	22°♎16'55	1°29'28		3516 Dec 29 10:44	0°☿	
min. Earth dist.	3511 Apr 13 07:17	22°♎13'05	4.46124 AU	evening set	3517 Mar 28 12:56	17°☿32'07	
direct	3511 Jun 14 04:11	17°♎14'25					
	3511 Sep 26 04:25	0°♏		conjunction	3517 Apr 10 16:30	20°☿43'33	-1°00'-44
evening set	3511 Oct 18 11:41	4°♏39'45		minimum elong	3517 Apr 10 16:29	20°☿43'33	1°00'45
max. Earth dist.	3511 Oct 30 05:48	7°♏11'28	6.46914 AU	max. Earth dist.	3517 Apr 11 08:58	20°☿53'34	5.94191 AU
				morning rise	3517 Apr 23 22:46	23°☿56'34	
conjunction	3511 Oct 31 11:12	7°♏27'19	1°00'43		3517 May 19 16:24	0°♐	
minimum elong	3511 Oct 31 11:13	7°♏27'19	1°00'43	retrograde	3517 Sep 03 11:13	14°♐42'28	
morning rise	3511 Nov 13 07:58	10°♏13'37		min. Earth dist.	3517 Nov 01 06:25	9°♐47'28	3.93485 AU
	3511 Dec 06 02:32	15°♏		opposition	3517 Nov 02 03:53	9°♐40'13	-1°-29'-17
retrograde	3512 Mar 12 09:21	26°♏54'56		direct	3517 Dec 30 02:43	4°♐46'03	
opposition	3512 May 12 04:33	22°♏02'06	1°20'39		3518 Mar 23 23:46	15°♐	
min. Earth dist.	3512 May 13 07:33	21°♏53'27	4.45886 AU	evening set	3518 May 05 02:27	24°♐36'26	
direct	3512 Jul 13 22:50	17°♏00'21					
	3512 Oct 26 18:53	0°♑		conjunction	3518 May 18 14:08	27°♐51'15	0°-51'-44
evening set	3512 Nov 16 22:38	4°♑29'04		minimum elong	3518 May 18 14:10	27°♐51'16	0°51'45
max. Earth dist.	3512 Nov 27 19:08	6°♑51'01	6.42797 AU	max. Earth dist.	3518 May 20 12:39	28°♐19'17	5.95158 AU
					3518 May 27 12:04	0°♒	
conjunction	3512 Nov 29 17:30	7°♑16'23	0°46'34	morning rise	3518 Jun 01 04:42	1°♒07'29	
minimum elong	3512 Nov 29 17:32	7°♑16'24	0°46'34	retrograde	3518 Oct 10 21:30	21°♒37'49	
morning rise	3512 Dec 12 10:04	10°♑02'46		min. Earth dist.	3518 Dec 07 22:50	16°♒45'10	3.99299 AU
retrograde	3513 Apr 12 13:25	27°♑04'36		opposition	3518 Dec 09 10:08	16°♒33'08	0°-58'-7
opposition	3513 Jun 12 11:54	22°♑12'38	0°50'08	direct	3519 Feb 05 08:53	11°♒36'42	
min. Earth dist.	3513 Jun 14 00:57	22°♑00'50	4.38098 AU		3519 Jun 07 04:26	0°☾	
direct	3513 Aug 14 01:28	17°♑12'25		evening set	3519 Jun 11 18:24	1°☾03'56	
	3513 Nov 24 09:34	0°☾					
evening set	3513 Dec 17 15:48	5°☾02'48		conjunction	3519 Jun 25 11:31	4°☾16'35	0°-22'-37
max. Earth dist.	3513 Dec 28 03:29	7°☾23'43	6.31882 AU	minimum elong	3519 Jun 25 11:32	4°☾16'36	0°22'37
				max. Earth dist.	3519 Jun 27 20:12	4°☾49'48	6.05196 AU
conjunction	3513 Dec 30 08:25	7°☾53'28	0°19'13	morning rise	3519 Jul 09 06:28	7°☾29'51	

retrograde	3519 Nov 15 01:22	27°  00'49		morning rise	3524 Dec 16 16:02	14°  25'00	
min. Earth dist.	3520 Jan 12 05:07	22°  08'03	4.12356 AU		3525 Mar 16 07:49	0°  3	
opposition	3520 Jan 13 15:28	21°  56'21	0°-6'-29	retrograde	3525 Apr 17 01:14	1°  31'38	
asc. node	3520 Mar 01 12:33	17°  09'12			3525 May 18 22:51	30°  R 	
direct	3520 Mar 12 12:52	16°  56'57		opposition	3525 Jun 17 00:16	26°  39'35	0°44'20
	3520 Jun 21 01:07	0°  Ω		min. Earth dist.	3525 Jun 18 13:26	26°  37'44	4.36553 AU
evening set	3520 Jul 17 02:54	5°  Ω43'41		direct	3525 Aug 18 10:55	21°  39'32	
					3525 Nov 06 03:43	0°  3	
conjunction	3520 Jul 30 20:06	8°  Ω49'35	0°13'35	evening set	3525 Dec 22 01:06	9°  34'09	
minimum elong	3520 Jul 30 20:06	8°  Ω49'34	0°13'35	max. Earth dist.	3526 Jan 01 14:16	11°  35'28	6.29969 AU
behind sun begin	3520 Jul 30 15:43	8°  Ω47'07					
behind sun end	3520 Jul 31 00:28	8°  Ω52'02		conjunction	3526 Jan 03 17:45	12°  32'32	0°14'37
max. Earth dist.	3520 Aug 01 19:38	9°  Ω16'27	6.20132 AU	minimum elong	3526 Jan 03 17:46	12°  32'32	0°14'36
morning rise	3520 Aug 13 12:57	11°  Ω55'01		behind sun begin	3526 Jan 03 14:10	12°  32'31	
	3520 Aug 27 11:00	15°  Ω		behind sun end	3526 Jan 03 21:21	12°  32'33	
	3520 Dec 04 19:08	0°  ♐		morning rise	3526 Jan 16 09:14	15°  31'38	
retrograde	3520 Dec 16 18:24	0°  ♐13'59			3526 Apr 03 13:27	0°  ≈	
	3520 Dec 28 15:32	30°  R  Ω		retrograde	3526 May 20 12:45	3°  ≈15'22	
opposition	3521 Feb 14 13:59	25°  Ω12'12	0°43'54	desc. node	3526 Jun 22 08:49	1°  ≈37'51	
min. Earth dist.	3521 Feb 13 14:55	25°  Ω19'56	4.27687 AU		3526 Jul 07 09:18	30°  R 	
direct	3521 Apr 15 18:34	20°  Ω10'37		opposition	3526 Jul 20 08:27	28°  32'26	0°-3'-36
	3521 Jul 11 15:57	0°  ♐		min. Earth dist.	3526 Jul 21 19:49	28°  31'06	4.22481 AU
evening set	3521 Aug 20 11:22	8°  ♐16'39		direct	3526 Sep 19 19:49	23°  32'43	
					3526 Nov 27 04:41	0°  ≈	
conjunction	3521 Sep 02 23:22	11°  ♐14'11	0°43'41	evening set	3527 Jan 23 05:07	11°  ≈58'03	
minimum elong	3521 Sep 02 23:20	11°  ♐14'10	0°43'41	max. Earth dist.	3527 Feb 03 05:25	14°  ≈31'55	6.14746 AU
max. Earth dist.	3521 Sep 03 20:20	11°  ♐25'41	6.34630 AU				
morning rise	3521 Sep 16 09:48	14°  ♐10'39		conjunction	3527 Feb 04 22:39	14°  ≈56'00	0°-19'-53
	3521 Dec 16 10:02	0°  ♐		minimum elong	3527 Feb 04 22:38	14°  ≈55'59	0°19'54
retrograde	3522 Jan 16 14:33	1°  ♐30'44			3527 Feb 05 05:30	15°  ≈	
	3522 Feb 16 14:49	30°  R  ♐		morning rise	3527 Feb 17 16:44	17°  ≈54'28	
opposition	3522 Mar 17 18:26	26°  ♐32'35	1°18'04		3527 Apr 15 14:48	0°  ♐	
min. Earth dist.	3522 Mar 17 13:41	26°  ♐34'09	4.40290 AU	retrograde	3527 Jun 25 09:50	7°  ♐03'46	
direct	3522 May 18 06:50	21°  ♐29'58		opposition	3527 Aug 24 22:31	2°  ♐08'22	0°-53'-49
	3522 Aug 07 14:35	0°  ♐		min. Earth dist.	3527 Aug 25 18:20	2°  ♐01'55	4.07234 AU
evening set	3522 Sep 21 20:16	9°  ♐06'39			3527 Sep 10 23:14	30°  R 	
				direct	3527 Oct 23 22:25	27°  ≈13'01	
conjunction	3522 Oct 05 01:24	11°  ♐57'24	0°59'57		3527 Dec 05 01:58	0°  ♐	
minimum elong	3522 Oct 05 01:23	11°  ♐57'23	0°59'58	evening set	3528 Feb 26 10:30	16°  ♐29'45	
max. Earth dist.	3522 Oct 04 18:47	11°  ♐53'49	6.44394 AU				
morning rise	3522 Oct 18 03:47	14°  ♐46'47		conjunction	3528 Mar 10 08:10	19°  ♐35'26	0°-49'-12
	3523 Jan 14 16:59	0°  ♐		minimum elong	3528 Mar 10 08:08	19°  ♐35'25	0°49'12
retrograde	3523 Feb 15 12:49	1°  ♐33'14		max. Earth dist.	3528 Mar 09 18:51	19°  ♐27'26	6.00851 AU
	3523 Mar 19 09:01	30°  R  ♐		morning rise	3528 Mar 23 07:36	22°  ♐42'21	
opposition	3523 Apr 17 02:14	26°  ♐38'26	1°29'35		3528 Apr 23 21:21	0°  ♐	
min. Earth dist.	3523 Apr 17 15:27	26°  ♐34'09	4.46719 AU	retrograde	3528 Aug 01 09:44	12°  ♐58'45	
direct	3523 Jun 18 12:11	21°  ♐35'56		opposition	3528 Sep 30 10:22	7°  ♐59'50	-1°-27'-19
	3523 Sep 07 23:16	0°  ♐		min. Earth dist.	3528 Sep 30 08:08	8°  ♐00'35	3.96108 AU
evening set	3523 Oct 22 19:27	8°  ♐59'55		direct	3528 Nov 28 02:05	3°  ♐06'03	
max. Earth dist.	3523 Nov 03 09:17	11°  ♐29'26	6.46968 AU	evening set	3529 Apr 02 19:19	22°  ♐53'19	
conjunction	3523 Nov 04 18:03	11°  ♐47'08	0°59'38	conjunction	3529 Apr 15 23:59	26°  ♐05'35	-1°00'-57
minimum elong	3523 Nov 04 18:04	11°  ♐47'08	0°59'37	minimum elong	3529 Apr 15 23:59	26°  ♐05'35	1°00'58
morning rise	3523 Nov 17 14:07	14°  ♐33'07		max. Earth dist.	3529 Apr 16 21:03	26°  ♐18'24	5.93552 AU
	3523 Nov 19 16:18	15°  ♐		morning rise	3529 Apr 29 07:37	29°  ♐19'30	
	3524 Feb 17 02:43	0°  ♐			3529 May 02 02:51	0°  ♐	
retrograde	3524 Mar 16 17:39	1°  ♐14'58			3529 Jul 12 09:41	15°  ♐	
	3524 Apr 14 08:07	30°  R  ♐		retrograde	3529 Sep 08 21:02	20°  ♐07'11	
opposition	3524 May 16 12:45	26°  ♐22'19	1°17'31	min. Earth dist.	3529 Nov 06 11:50	15°  ♐13'01	3.93635 AU
min. Earth dist.	3524 May 17 18:34	26°  ♐12'47	4.45375 AU	opposition	3529 Nov 07 13:00	15°  ♐04'31	-1°-26'-50
direct	3524 Jul 18 08:28	21°  ♐20'41			3529 Nov 08 02:24	15°  R 	
	3524 Oct 08 20:38	0°  ♐		direct	3530 Jan 04 08:52	10°  ♐10'12	
evening set	3524 Nov 21 05:22	8°  ♐50'48			3530 Feb 28 13:04	15°  ♐	
max. Earth dist.	3524 Dec 01 22:44	11°  ♐11'26	6.41741 AU	evening set	3530 May 10 11:53	29°  ♐59'20	
					3530 May 10 13:00	0°  ♐	
conjunction	3524 Dec 03 23:45	11°  ♐38'19	0°43'22	conjunction	3530 May 24 00:31	3°  ♐14'11	0°-48'-33
minimum elong	3524 Dec 03 23:47	11°  ♐38'20	0°43'23				

minimum elong	3530 May 24 00:33	3°♐14'12	0°48'35	minimum elong	3535 Nov 08 22:54	16°♍02'00	0°58'15
max. Earth dist.	3530 May 26 01:24	3°♐43'34	5.96082 AU	morning rise	3535 Nov 21 18:09	18°♍47'52	
morning rise	3530 Jun 06 16:05	6°♐30'23			3536 Jan 18 06:59	0°♈	
retrograde	3530 Oct 16 00:57	26°♐54'19		retrograde	3536 Mar 20 23:07	5°♈31'53	
min. Earth dist.	3530 Dec 13 01:45	22°♐01'47	4.00885 AU	opposition	3536 May 20 19:28	0°♈39'25	1°14'03
opposition	3530 Dec 14 13:53	21°♐49'27	0°-51'-30	min. Earth dist.	3536 May 22 02:24	0°♈29'32	4.44374 AU
direct	3531 Feb 10 15:35	16°♐52'35			3536 May 25 23:12	30°♍	
	3531 May 20 11:07	0°♉		direct	3536 Jul 22 13:22	25°♍37'58	
evening set	3531 Jun 17 00:43	6°♉14'12			3536 Sep 17 01:20	0°♈	
				evening set	3536 Nov 25 11:22	13°♈11'20	
conjunction	3531 Jun 30 18:18	9°♉26'03	0°-17'-34	max. Earth dist.	3536 Dec 06 03:00	15°♈31'34	6.40168 AU
minimum elong	3531 Jun 30 18:19	9°♉26'04	0°17'35				
max. Earth dist.	3531 Jul 03 04:42	10°♉00'06	6.07310 AU	conjunction	3536 Dec 08 05:22	15°♈59'19	0°39'59
morning rise	3531 Jul 14 13:08	12°♉38'17		minimum elong	3536 Dec 08 05:24	15°♈59'20	0°39'59
	3531 Oct 15 12:55	0°♊		morning rise	3536 Dec 20 21:26	18°♈46'32	
retrograde	3531 Nov 19 20:26	1°♊58'16			3537 Feb 15 04:24	0°♉	
	3531 Dec 24 20:04	30°♋		retrograde	3537 Apr 21 15:50	5°♉59'57	
asc. node	3532 Jan 10 00:19	28°♉02'10		opposition	3537 Jun 21 13:16	1°♉07'56	0°38'18
min. Earth dist.	3532 Jan 17 01:01	27°♉05'29	4.14759 AU	min. Earth dist.	3537 Jun 23 03:59	0°♉55'36	4.34487 AU
opposition	3532 Jan 18 10:36	26°♉54'05	0°01'08		3537 Jun 30 12:06	30°♋	
direct	3532 Mar 17 12:04	21°♉54'21		direct	3537 Aug 22 21:51	26°♈08'11	
	3532 Jun 01 14:04	0°♊			3537 Oct 14 01:13	0°♉	
evening set	3532 Jul 22 02:18	10°♊33'58		evening set	3537 Dec 26 11:16	14°♉08'49	
				max. Earth dist.	3538 Jan 05 23:48	16°♉31'36	6.27571 AU
conjunction	3532 Aug 04 18:48	13°♊38'30	0°18'25				
minimum elong	3532 Aug 04 18:46	13°♊38'29	0°18'25	conjunction	3538 Jan 08 03:56	17°♉01'11	0°09'55
max. Earth dist.	3532 Aug 06 14:23	14°♊03'01	6.22601 AU	minimum elong	3538 Jan 08 03:56	17°♉01'11	0°09'56
	3532 Aug 10 19:47	15°♊		behind sun begin	3538 Jan 07 21:26	16°♉57'30	
morning rise	3532 Aug 18 11:01	16°♊42'32		behind sun end	3538 Jan 08 10:26	17°♉04'51	
	3532 Oct 24 17:39	0°♋		morning rise	3538 Jan 20 19:45	19°♉53'23	
retrograde	3532 Dec 21 03:33	4°♋50'59			3538 Mar 09 19:33	0°♌	
	3533 Feb 17 18:05	30°♋		desc. node	3538 May 01 23:49	7°♌11'28	
min. Earth dist.	3533 Feb 18 04:24	29°♊56'33	4.30011 AU	retrograde	3538 May 25 10:33	8°♌02'37	
opposition	3533 Feb 19 01:01	29°♊49'38	0°49'51	opposition	3538 Jul 25 05:53	3°♌09'24	0°-10'-56
direct	3533 Apr 20 10:36	24°♊47'48		min. Earth dist.	3538 Jul 26 14:53	2°♌58'48	4.19925 AU
	3533 Jun 20 05:21	0°♋			3538 Aug 20 22:28	30°♋	
evening set	3533 Aug 25 02:24	12°♋47'54		direct	3538 Sep 24 11:22	28°♉12'00	
					3538 Oct 28 18:17	0°♌	
conjunction	3533 Sep 07 13:35	15°♋44'13	0°46'52		3539 Jan 19 19:23	15°♌	
minimum elong	3533 Sep 07 13:33	15°♋44'12	0°46'51	evening set	3539 Jan 27 22:45	16°♌52'58	
max. Earth dist.	3533 Sep 08 07:32	15°♋54'02	6.36628 AU	max. Earth dist.	3539 Feb 08 04:01	19°♌30'32	6.12265 AU
morning rise	3533 Sep 20 22:42	18°♋39'22					
	3533 Nov 17 11:16	0°♌		conjunction	3539 Feb 09 16:49	19°♌52'09	0°-24'-38
retrograde	3534 Jan 20 18:53	5°♌52'19		minimum elong	3539 Feb 09 16:48	19°♌52'08	0°24'39
opposition	3534 Mar 22 00:23	0°♌54'44	1°21'02	morning rise	3539 Feb 22 11:24	22°♌51'56	
min. Earth dist.	3534 Mar 21 22:04	0°♌55'30	4.41828 AU		3539 Mar 26 02:20	0°♍	
	3534 Mar 29 00:09	30°♋		retrograde	3539 Jun 30 18:43	12°♍12'41	
direct	3534 May 22 16:00	25°♋52'07		opposition	3539 Aug 30 04:40	7°♍16'52	-1°00'-4
	3534 Jul 16 05:24	0°♌		min. Earth dist.	3539 Aug 30 22:14	7°♍11'09	4.05057 AU
evening set	3534 Sep 26 04:56	13°♌25'22		direct	3539 Oct 29 00:25	2°♍21'52	
				evening set	3540 Mar 02 12:40	21°♍44'52	
conjunction	3534 Oct 09 08:54	16°♌15'20	1°00'53				
minimum elong	3534 Oct 09 08:54	16°♌15'20	1°00'53	conjunction	3540 Mar 15 11:09	24°♍51'42	0°-52'-11
max. Earth dist.	3534 Oct 08 20:25	16°♌08'36	6.45336 AU	minimum elong	3540 Mar 15 11:08	24°♍51'41	0°52'11
morning rise	3534 Oct 22 10:26	19°♌03'59		max. Earth dist.	3540 Mar 15 02:17	24°♍46'21	5.99184 AU
	3534 Dec 17 11:57	0°♍		morning rise	3540 Mar 28 11:46	27°♍59'52	
retrograde	3535 Feb 19 17:41	5°♍47'53			3540 Apr 05 21:28	0°♎	
opposition	3535 Apr 21 06:50	0°♍53'29	1°29'15	retrograde	3540 Aug 06 21:34	18°♎23'43	
min. Earth dist.	3535 Apr 21 23:48	0°♍48'00	4.47026 AU	opposition	3540 Oct 05 21:20	13°♎24'13	-1°-29'-32
	3535 Apr 28 05:15	30°♋		min. Earth dist.	3540 Oct 05 14:22	13°♎26'32	3.95170 AU
direct	3535 Jun 22 19:38	25°♌51'01		direct	3540 Dec 03 08:05	8°♎30'30	
	3535 Aug 16 22:01	0°♍		evening set	3541 Apr 08 03:37	28°♎19'41	
evening set	3535 Oct 27 00:49	13°♍14'54			3541 Apr 15 01:12	0°♏	
	3535 Nov 04 04:10	15°♍					
max. Earth dist.	3535 Nov 07 11:25	15°♍42'49	6.46604 AU	conjunction	3541 Apr 21 09:23	1°♏32'32	-1°00'-38
				minimum elong	3541 Apr 21 09:23	1°♏32'32	1°00'38
conjunction	3535 Nov 08 22:53	16°♍01'59	0°58'15	max. Earth dist.	3541 Apr 22 11:26	1°♏48'22	5.93414 AU

morning rise	3541 May 04 18:12	4°♄47'02			3546 Nov 27 21:35	0°♍	
	3541 Jun 18 13:54	15°♄		retrograde	3547 Feb 23 21:50	10°♍04'33	
retrograde	3541 Sep 14 06:14	25°♄33'55		opposition	3547 Apr 25 12:36	5°♍10'32	1°28'28
opposition	3541 Nov 12 22:19	20°♄30'42	-1°-23'-36	min. Earth dist.	3547 Apr 26 07:36	5°♍04'24	4.47015 AU
min. Earth dist.	3541 Nov 11 18:49	20°♄40'01	3.94303 AU	direct	3547 Jun 27 02:29	0°♍08'12	
direct	3542 Jan 09 18:44	15°♄36'03			3547 Oct 19 07:58	15°♍	
	3542 Apr 22 22:01	0°♄		evening set	3547 Oct 31 07:32	17°♍32'44	
evening set	3542 May 15 21:05	5°♄21'46		max. Earth dist.	3547 Nov 11 13:18	19°♍58'23	6.45991 AU
conjunction	3542 May 29 10:47	8°♄36'25	0°-44'-58	conjunction	3547 Nov 13 04:47	20°♍19'46	0°56'32
minimum elong	3542 May 29 10:49	8°♄36'27	0°44'59	minimum elong	3547 Nov 13 04:48	20°♍19'47	0°56'33
max. Earth dist.	3542 May 31 15:51	9°♄08'11	5.97476 AU	morning rise	3547 Nov 25 23:38	23°♍05'43	
morning rise	3542 Jun 12 02:58	11°♄52'15			3547 Dec 29 08:25	0°♄	
	3542 Sep 14 12:40	0°♄		retrograde	3548 Mar 25 09:08	9°♄52'43	
retrograde	3542 Oct 21 03:33	2°♄07'36		opposition	3548 May 25 04:44	5°♄00'26	1°10'06
	3542 Nov 26 11:39	30°♄		min. Earth dist.	3548 May 26 14:09	4°♄49'45	4.43194 AU
min. Earth dist.	3542 Dec 18 03:29	27°♄15'03	4.02823 AU		3548 Jul 23 22:12	30°♄	
opposition	3542 Dec 19 15:49	27°♄02'40	0°-44'-30	direct	3548 Jul 26 22:49	29°♄59'10	
direct	3543 Feb 15 20:22	22°♄05'22			3548 Jul 29 23:37	0°♄	
	3543 Apr 30 11:02	0°♄		evening set	3548 Nov 29 19:03	17°♄36'03	
evening set	3543 Jun 22 05:41	11°♄20'25		max. Earth dist.	3548 Dec 10 09:36	19°♄56'14	6.38512 AU
conjunction	3543 Jul 05 23:16	14°♄31'15	0°-12'-26	conjunction	3548 Dec 12 12:52	20°♄24'35	0°36'17
minimum elong	3543 Jul 05 23:17	14°♄31'16	0°12'28	minimum elong	3548 Dec 12 12:54	20°♄24'36	0°36'16
behind sun begin	3543 Jul 05 17:58	14°♄28'12		morning rise	3548 Dec 25 04:41	23°♄12'23	
behind sun end	3543 Jul 06 04:36	14°♄34'20			3549 Jan 26 05:55	0°♄	
max. Earth dist.	3543 Jul 08 07:42	15°♄03'57	6.09591 AU	retrograde	3549 Apr 26 06:33	10°♄32'52	
morning rise	3543 Jul 19 18:11	17°♄42'25		opposition	3549 Jun 26 04:34	5°♄40'48	0°31'52
	3543 Sep 16 10:23	0°♄		min. Earth dist.	3549 Jun 27 18:12	5°♄28'48	4.32468 AU
asc. node	3543 Nov 19 08:41	6°♄48'31		direct	3549 Aug 27 08:56	0°♄41'27	
retrograde	3543 Nov 24 11:15	6°♄51'08		evening set	3549 Dec 30 23:32	18°♄47'50	
min. Earth dist.	3544 Jan 21 19:05	1°♄58'16	4.17153 AU	max. Earth dist.	3550 Jan 10 14:04	21°♄12'29	6.25367 AU
opposition	3544 Jan 23 03:39	1°♄47'13	0°08'40				
	3544 Feb 05 15:59	30°♄		conjunction	3550 Jan 12 16:11	21°♄41'05	0°05'04
direct	3544 Mar 22 09:10	26°♄47'05		minimum elong	3550 Jan 12 16:12	21°♄41'05	0°05'04
	3544 May 07 07:09	0°♄		behind sun begin	3550 Jan 12 08:27	21°♄36'42	
	3544 Jul 25 11:48	15°♄		behind sun end	3550 Jan 12 23:56	21°♄45'29	
evening set	3544 Jul 26 23:42	15°♄19'57		morning rise	3550 Jan 25 08:13	24°♄34'17	
					3550 Feb 18 20:25	0°♄	
conjunction	3544 Aug 09 15:43	18°♄23'15	0°23'05	desc. node	3550 Mar 10 22:25	4°♄05'32	
minimum elong	3544 Aug 09 15:41	18°♄23'14	0°23'05	retrograde	3550 May 30 12:02	12°♄53'27	
max. Earth dist.	3544 Aug 11 08:15	18°♄45'56	6.24927 AU	opposition	3550 Jul 30 05:22	8°♄00'01	0°-18'-21
morning rise	3544 Aug 23 06:58	21°♄25'53		min. Earth dist.	3550 Jul 31 13:20	7°♄49'44	4.17699 AU
	3544 Oct 02 23:47	0°♄		direct	3550 Sep 29 07:11	3°♄03'03	
retrograde	3544 Dec 25 13:02	9°♄24'46			3551 Jan 02 10:21	15°♄	
opposition	3545 Feb 23 11:09	4°♄23'58	0°55'28	evening set	3551 Feb 01 17:33	21°♄50'14	
min. Earth dist.	3545 Feb 22 17:23	4°♄29'54	4.32078 AU	max. Earth dist.	3551 Feb 13 02:23	24°♄30'38	6.10230 AU
	3545 Apr 05 01:42	30°♄					
direct	3545 Apr 25 01:40	29°♄21'59		conjunction	3551 Feb 14 12:03	24°♄50'29	0°-29'-16
	3545 May 15 06:29	0°♄		minimum elong	3551 Feb 14 12:02	24°♄50'28	0°29'17
evening set	3545 Aug 29 16:40	17°♄17'02		morning rise	3551 Feb 27 07:21	27°♄51'27	
					3551 Mar 08 12:03	0°♄	
conjunction	3545 Sep 12 02:46	20°♄12'16	0°49'47	retrograde	3551 Jul 06 01:25	17°♄21'53	
minimum elong	3545 Sep 12 02:45	20°♄12'15	0°49'47	opposition	3551 Sep 04 11:04	12°♄25'38	-1°-5'-54
max. Earth dist.	3545 Sep 12 15:21	20°♄19'07	6.38276 AU	min. Earth dist.	3551 Sep 05 00:11	12°♄21'21	4.03433 AU
morning rise	3545 Sep 25 10:55	23°♄06'20		direct	3551 Nov 03 00:57	7°♄30'59	
	3545 Oct 28 14:22	0°♄		evening set	3552 Mar 07 14:26	26°♄58'11	
retrograde	3546 Jan 24 23:43	10°♄13'30					
opposition	3546 Mar 26 06:29	5°♄16'23	1°23'35	conjunction	3552 Mar 20 13:40	0°♄05'51	0°-54'-44
min. Earth dist.	3546 Mar 26 07:12	5°♄16'09	4.42980 AU	minimum elong	3552 Mar 20 13:39	0°♄05'50	0°54'45
direct	3546 May 27 01:46	0°♄13'42		max. Earth dist.	3552 Mar 20 10:10	0°♄03'44	5.98120 AU
evening set	3546 Sep 30 13:53	17°♄44'42			3552 Mar 20 03:59	0°♄	
				morning rise	3552 Apr 02 15:14	3°♄14'55	
conjunction	3546 Oct 13 17:05	20°♄34'05	1°01'30	retrograde	3552 Aug 12 07:26	23°♄43'50	
minimum elong	3546 Oct 13 17:05	20°♄34'05	1°01'29	opposition	3552 Oct 11 06:18	18°♄43'44	-1°-30'-57
max. Earth dist.	3546 Oct 13 01:49	20°♄25'52	6.45916 AU	min. Earth dist.	3552 Oct 10 20:11	18°♄47'07	3.94797 AU
morning rise	3546 Oct 26 17:28	23°♄22'07		direct	3552 Dec 08 14:46	13°♄50'02	

	3553 Mar 29 01:59	0°♄		conjunction	3558 Oct 17 23:59	24°♄52'04	1°01'46
evening set	3553 Apr 13 09:34	3°♄39'10		minimum elong	3558 Oct 17 23:59	24°♄52'03	1°01'45
				max. Earth dist.	3558 Oct 17 04:09	24°♄41'22	6.46112 AU
conjunction	3553 Apr 26 16:30	6°♄52'23	0°-59'-49	morning rise	3558 Oct 30 23:38	27°♄39'43	
minimum elong	3553 Apr 26 16:31	6°♄52'23	0°59'49		3558 Nov 10 23:52	0°♄	
max. Earth dist.	3553 Apr 28 00:25	7°♄11'45	5.93763 AU	retrograde	3559 Feb 28 03:08	14°♄21'57	
morning rise	3553 May 10 02:18	10°♄07'10		opposition	3559 Apr 29 18:35	9°♄28'12	1°27'12
	3553 May 30 17:57	15°♄		min. Earth dist.	3559 Apr 30 15:51	9°♄21'21	4.46698 AU
	3553 Aug 27 14:52	0°♄		direct	3559 Jul 01 09:50	4°♄25'58	
retrograde	3553 Sep 19 12:55	0°♄51'09			3559 Oct 02 08:14	15°♄	
	3553 Oct 12 05:41	30°♄		evening set	3559 Nov 04 14:02	21°♄51'49	
min. Earth dist.	3553 Nov 16 22:24	25°♄57'30	3.95348 AU	max. Earth dist.	3559 Nov 15 18:41	24°♄17'10	6.45191 AU
opposition	3553 Nov 18 03:34	25°♄47'37	-1°-19'-44				
direct	3554 Jan 15 00:12	20°♄52'42		conjunction	3559 Nov 17 10:50	24°♄38'58	0°54'30
	3554 Apr 03 19:21	0°♄		minimum elong	3559 Nov 17 10:51	24°♄38'58	0°54'31
evening set	3554 May 21 02:32	10°♄34'04		morning rise	3559 Nov 30 04:57	27°♄24'59	
					3559 Dec 12 07:00	0°♄	
conjunction	3554 Jun 03 16:50	13°♄48'17	0°-41'-9	retrograde	3560 Mar 29 17:18	14°♄15'22	
minimum elong	3554 Jun 03 16:52	13°♄48'19	0°41'10	opposition	3560 May 29 14:17	9°♄23'11	1°05'44
max. Earth dist.	3554 Jun 05 22:19	14°♄20'09	5.99079 AU	min. Earth dist.	3560 May 31 00:01	9°♄12'26	4.41968 AU
morning rise	3554 Jun 17 09:50	17°♄03'40		direct	3560 Jul 31 07:09	4°♄22'11	
	3554 Aug 16 12:55	0°♄		evening set	3560 Dec 04 03:05	22°♄02'22	
retrograde	3554 Oct 25 23:31	7°♄10'06		max. Earth dist.	3560 Dec 14 16:11	24°♄22'21	6.36946 AU
min. Earth dist.	3554 Dec 23 00:24	2°♄17'43	4.04800 AU				
opposition	3554 Dec 24 13:14	2°♄05'09	0°-37'-26	conjunction	3560 Dec 16 20:26	24°♄51'22	0°32'22
	3555 Jan 09 09:24	30°♄		minimum elong	3560 Dec 16 20:28	24°♄51'23	0°32'22
direct	3555 Feb 20 19:55	27°♄07'27		morning rise	3560 Dec 29 12:14	27°♄39'45	
	3555 Apr 04 07:08	0°♄			3561 Jan 09 04:21	0°♄	
evening set	3555 Jun 27 06:05	16°♄16'16		retrograde	3561 Apr 30 23:11	15°♄06'54	
				opposition	3561 Jun 30 20:23	10°♄14'40	0°25'13
conjunction	3555 Jul 10 23:48	19°♄26'09	0°-7'-25	min. Earth dist.	3561 Jul 02 10:18	10°♄02'34	4.30633 AU
minimum elong	3555 Jul 10 23:49	19°♄26'09	0°07'26	direct	3561 Aug 31 22:58	5°♄15'33	
behind sun begin	3555 Jul 10 16:12	19°♄21'47		evening set	3562 Jan 04 11:11	23°♄26'38	
behind sun end	3555 Jul 11 07:25	19°♄30'32		max. Earth dist.	3562 Jan 15 03:40	25°♄53'01	6.23407 AU
max. Earth dist.	3555 Jul 13 06:34	19°♄57'44	6.11770 AU				
morning rise	3555 Jul 24 18:24	22°♄36'10		conjunction	3562 Jan 17 04:02	26°♄20'43	0°00'07
	3555 Aug 27 09:47	0°♄		minimum elong	3562 Jan 17 04:01	26°♄20'43	0°00'07
asc. node	3555 Sep 30 01:07	6°♄16'34		behind sun begin	3562 Jan 16 20:14	26°♄16'17	
retrograde	3555 Nov 29 00:44	11°♄34'45		behind sun end	3562 Jan 17 11:48	26°♄25'09	
min. Earth dist.	3556 Jan 26 11:09	6°♄41'20	4.19308 AU	desc. node	3562 Jan 18 09:10	26°♄37'24	
opposition	3556 Jan 27 17:03	6°♄31'13	0°15'52	morning rise	3562 Jan 29 20:15	29°♄14'49	
direct	3556 Mar 27 03:34	1°♄30'48			3562 Feb 02 03:43	0°♄	
	3556 Jul 08 20:36	15°♄			3562 Apr 22 21:54	15°♄	
evening set	3556 Jul 31 17:37	19°♄58'04		retrograde	3562 Jun 04 10:09	17°♄42'51	
					3562 Jul 17 13:32	15°♄	
conjunction	3556 Aug 14 09:00	23°♄00'16	0°27'28	opposition	3562 Aug 04 04:01	12°♄49'02	0°-25'-37
minimum elong	3556 Aug 14 08:58	23°♄00'15	0°27'27	min. Earth dist.	3562 Aug 05 09:10	12°♄39'39	4.15746 AU
max. Earth dist.	3556 Aug 15 21:52	23°♄20'48	6.26886 AU	direct	3562 Oct 04 00:39	7°♄52'24	
morning rise	3556 Aug 27 23:28	26°♄01'43			3562 Dec 13 17:42	15°♄	
	3556 Sep 15 06:04	0°♄		evening set	3563 Feb 06 11:25	26°♄44'46	
retrograde	3556 Dec 29 18:24	13°♄52'42		max. Earth dist.	3563 Feb 18 00:02	29°♄28'02	6.08436 AU
opposition	3557 Feb 27 18:30	8°♄52'25	1°00'36				
min. Earth dist.	3557 Feb 27 02:46	8°♄57'39	4.33718 AU	conjunction	3563 Feb 19 06:16	29°♄45'56	0°-33'-40
direct	3557 Apr 29 12:29	3°♄50'17		minimum elong	3563 Feb 19 06:14	29°♄45'55	0°33'40
evening set	3557 Sep 03 04:32	21°♄41'54			3563 Feb 20 06:01	0°♄	
				morning rise	3563 Mar 04 02:14	2°♄47'56	
conjunction	3557 Sep 16 13:46	24°♄36'16	0°52'20	retrograde	3563 Jul 11 07:55	22°♄27'11	
minimum elong	3557 Sep 16 13:45	24°♄36'15	0°52'21	opposition	3563 Sep 09 15:40	17°♄30'23	-1°-11'-10
max. Earth dist.	3557 Sep 16 22:17	24°♄40'54	6.39491 AU	min. Earth dist.	3563 Sep 10 02:14	17°♄26'54	4.01947 AU
morning rise	3557 Sep 29 20:49	27°♄29'25		direct	3563 Nov 08 01:56	12°♄35'52	
	3557 Oct 11 14:28	0°♄			3564 Mar 03 18:03	0°♄	
retrograde	3558 Jan 29 04:17	14°♄32'25		evening set	3564 Mar 12 14:41	2°♄06'59	
opposition	3558 Mar 30 11:37	9°♄35'50	1°25'39				
min. Earth dist.	3558 Mar 30 15:24	9°♄34'35	4.43716 AU	conjunction	3564 Mar 25 14:57	5°♄15'32	0°-56'-51
direct	3558 May 31 10:36	4°♄33'11		minimum elong	3564 Mar 25 14:56	5°♄15'32	0°56'52
evening set	3558 Oct 04 21:43	22°♄03'06		max. Earth dist.	3564 Mar 25 16:47	5°♄16'38	5.97086 AU
				morning rise	3564 Apr 07 17:29	8°♄25'32	

retrograde	3564 Aug 17 15:54	28° Υ 59'08		min. Earth dist.	3570 Apr 03 23:56	13° Ω 57'46	4.44629 AU
opposition	3564 Oct 16 13:10	23° Υ 58'32	-1°-31'-38	direct	3570 Jun 04 19:59	8° Ω 56'55	
min. Earth dist.	3564 Oct 16 00:20	24° Υ 02'49	3.94354 AU	evening set	3570 Oct 09 07:10	26° Ω 24'57	
direct	3564 Dec 13 18:27	19° Υ 04'48		max. Earth dist.	3570 Oct 21 10:44	29° Ω 01'37	6.46650 AU
	3565 Mar 10 23:02	0° \mathcal{B}					
evening set	3565 Apr 18 14:27	8° \mathcal{B} 54'30		conjunction	3570 Oct 22 08:31	29° Ω 13'22	1°01'44
				minimum elong	3570 Oct 22 08:31	29° Ω 13'22	1°01'44
conjunction	3565 May 01 22:20	12° \mathcal{B} 08'07	0°-58'-32		3570 Oct 25 23:01	0° \mathcal{M}	
minimum elong	3565 May 01 22:21	12° \mathcal{B} 08'08	0°58'33	morning rise	3570 Nov 04 07:09	2° \mathcal{M} 00'28	
max. Earth dist.	3565 May 03 08:35	12° \mathcal{B} 28'53	5.93927 AU		3571 Jan 13 02:35	15° \mathcal{M}	
	3565 May 13 18:36	15° \mathcal{B}		retrograde	3571 Mar 04 09:03	18° \mathcal{M} 41'19	
morning rise	3565 May 15 09:27	15° \mathcal{B} 23'22			3571 Apr 24 14:44	15° $\mathcal{R}\mathcal{M}$	
	3565 Jul 22 10:58	0° Π		opposition	3571 May 04 01:44	13° \mathcal{M} 47'57	1°25'30
retrograde	3565 Sep 24 16:24	6° Π 05'13		min. Earth dist.	3571 May 05 00:49	13° \mathcal{M} 40'32	4.46847 AU
min. Earth dist.	3565 Nov 22 00:00	1° Π 11'59	3.96106 AU	direct	3571 Jul 05 19:15	8° \mathcal{M} 45'57	
opposition	3565 Nov 23 07:26	1° Π 01'18	-1°-15'-19		3571 Sep 12 14:25	15° \mathcal{M}	
	3565 Nov 30 21:31	30° $\mathcal{R}\mathcal{B}$		evening set	3571 Nov 08 20:40	26° \mathcal{M} 11'23	
direct	3566 Jan 20 03:54	26° \mathcal{B} 06'01		max. Earth dist.	3571 Nov 19 21:33	28° \mathcal{M} 34'54	6.44936 AU
	3566 Mar 10 11:08	0° Π					
evening set	3566 May 26 07:46	15° Π 44'29		conjunction	3571 Nov 21 16:41	28° \mathcal{M} 58'21	0°52'14
				minimum elong	3571 Nov 21 16:42	28° \mathcal{M} 58'22	0°52'14
conjunction	3566 Jun 08 22:59	18° Π 58'29	0°-37'-1		3571 Nov 26 10:03	0° \mathcal{A}	
minimum elong	3566 Jun 08 23:01	18° Π 58'30	0°37'02	morning rise	3571 Dec 04 10:22	1° \mathcal{A} 44'17	
max. Earth dist.	3566 Jun 11 06:04	19° Π 31'12	6.00361 AU	retrograde	3572 Apr 03 02:01	18° \mathcal{A} 36'32	
morning rise	3566 Jun 22 16:28	22° Π 13'29		opposition	3572 Jun 02 23:42	13° \mathcal{A} 44'25	1°01'07
	3566 Jul 27 00:55	0° \mathcal{E}		min. Earth dist.	3572 Jun 04 10:25	13° \mathcal{A} 33'21	4.41318 AU
retrograde	3566 Oct 30 21:49	12° \mathcal{E} 12'17		direct	3572 Aug 04 16:29	8° \mathcal{A} 43'37	
min. Earth dist.	3566 Dec 27 23:08	7° \mathcal{E} 19'32	4.06437 AU	evening set	3572 Dec 08 09:14	26° \mathcal{A} 25'09	
opposition	3566 Dec 29 10:44	7° \mathcal{E} 07'24	0°-30'-7	max. Earth dist.	3572 Dec 18 23:04	28° \mathcal{A} 45'51	6.35952 AU
direct	3567 Feb 25 21:08	2° \mathcal{E} 09'17					
evening set	3567 Jul 02 07:44	21° \mathcal{E} 13'18		conjunction	3572 Dec 21 02:25	29° \mathcal{A} 14'25	0°28'24
				minimum elong	3572 Dec 21 02:26	29° \mathcal{A} 14'26	0°28'24
conjunction	3567 Jul 16 01:33	24° \mathcal{E} 22'23	0°-2'-18		3572 Dec 24 12:16	0° \mathcal{B}	
minimum elong	3567 Jul 16 01:32	24° \mathcal{E} 22'23	0°02'18	morning rise	3573 Jan 02 17:50	2° \mathcal{B} 03'06	
behind sun begin	3567 Jul 15 17:08	24° \mathcal{E} 17'35		retrograde	3573 May 05 11:03	19° \mathcal{B} 35'13	
behind sun end	3567 Jul 16 09:55	24° \mathcal{E} 27'10		opposition	3573 Jul 05 09:41	14° \mathcal{B} 42'53	0°18'39
max. Earth dist.	3567 Jul 18 07:16	24° \mathcal{E} 53'13	6.13618 AU	min. Earth dist.	3573 Jul 06 22:55	14° \mathcal{B} 31'01	4.29342 AU
morning rise	3567 Jul 29 19:56	27° \mathcal{E} 31'28		direct	3573 Sep 05 09:22	9° \mathcal{B} 44'06	
asc. node	3567 Aug 09 19:21	29° \mathcal{E} 59'58		desc. node	3573 Nov 30 05:59	19° \mathcal{B} 26'16	
	3567 Aug 09 19:25	0° Ω		evening set	3574 Jan 08 20:02	27° \mathcal{B} 58'19	
	3567 Nov 04 13:12	15° Ω			3574 Jan 17 16:35	0° \approx	
retrograde	3567 Dec 03 13:51	16° Ω 20'54		max. Earth dist.	3574 Jan 19 12:51	0° \approx 25'27	6.21909 AU
	3568 Jan 01 09:41	15° $\mathcal{R}\Omega$					
min. Earth dist.	3568 Jan 31 02:24	11° Ω 27'38	4.21196 AU	conjunction	3574 Jan 21 12:44	0° \approx 52'59	0°-4'-38
opposition	3568 Feb 01 07:35	11° Ω 17'47	0°23'02	minimum elong	3574 Jan 21 12:43	0° \approx 52'58	0°04'39
direct	3568 Mar 31 21:03	6° Ω 17'06		behind sun begin	3574 Jan 21 04:55	0° \approx 48'30	
	3568 Jun 20 02:41	15° Ω		behind sun end	3574 Jan 21 20:32	0° \approx 57'26	
evening set	3568 Aug 05 13:24	24° Ω 39'44		morning rise	3574 Feb 03 05:17	3° \approx 47'48	
					3574 Mar 28 08:16	15° \approx	
conjunction	3568 Aug 19 04:04	27° Ω 40'53	0°31'45	retrograde	3574 Jun 09 06:17	22° \approx 23'28	
minimum elong	3568 Aug 19 04:02	27° Ω 40'52	0°31'45	opposition	3574 Aug 08 22:46	17° \approx 29'20	0°-32'-25
max. Earth dist.	3568 Aug 20 12:39	27° Ω 58'59	6.28676 AU	min. Earth dist.	3574 Aug 10 02:53	17° \approx 20'15	4.14124 AU
	3568 Aug 29 14:58	0° \mathcal{M}			3574 Aug 29 04:04	15° $\mathcal{R}\approx$	
morning rise	3568 Sep 01 17:43	0° \mathcal{M} 41'13		direct	3574 Oct 08 16:10	12° \approx 32'54	
retrograde	3569 Jan 03 04:23	18° \mathcal{M} 24'55			3574 Nov 17 12:02	15° \approx	
opposition	3569 Mar 04 04:18	13° \mathcal{M} 25'13	1°05'29		3575 Feb 04 16:03	0° \mathcal{H}	
min. Earth dist.	3569 Mar 03 15:43	13° \mathcal{M} 29'24	4.35288 AU	evening set	3575 Feb 11 01:04	1° \mathcal{H} 29'42	
direct	3569 May 04 03:35	8° \mathcal{M} 23'01					
evening set	3569 Sep 07 18:27	26° \mathcal{M} 11'12		conjunction	3575 Feb 23 20:32	4° \mathcal{H} 31'47	0°-37'-37
				minimum elong	3575 Feb 23 20:31	4° \mathcal{H} 31'46	0°37'38
conjunction	3569 Sep 21 02:47	29° \mathcal{M} 04'42	0°54'40	max. Earth dist.	3575 Feb 22 17:40	4° \mathcal{H} 15'50	6.06838 AU
minimum elong	3569 Sep 21 02:45	29° \mathcal{M} 04'42	0°54'40	morning rise	3575 Mar 08 17:05	7° \mathcal{H} 34'46	
max. Earth dist.	3569 Sep 21 08:16	29° \mathcal{M} 07'41	6.40745 AU	retrograde	3575 Jul 16 09:22	27° \mathcal{H} 22'17	
	3569 Sep 25 08:38	0° Ω		opposition	3575 Sep 14 15:35	22° \mathcal{H} 25'03	-1°-15'-42
morning rise	3569 Oct 04 08:43	1° Ω 56'56		min. Earth dist.	3575 Sep 14 23:58	22° \mathcal{H} 22'18	4.00531 AU
retrograde	3570 Feb 02 09:12	18° Ω 55'34		direct	3575 Nov 12 20:41	17° \mathcal{H} 30'44	
opposition	3570 Apr 03 18:44	13° Ω 59'28	1°27'19		3576 Feb 15 23:44	0° Υ	





























































































evening set	3576 Mar 17 10:57	7°Υ06'00		conjunction	3581 Sep 25 15:11	3°♄32'17	0°56'39
				minimum elong	3581 Sep 25 15:09	3°♄32'17	0°56'39
conjunction	3576 Mar 30 12:00	10°Υ15'28	0°-58'-28	max. Earth dist.	3581 Sep 25 16:21	3°♄32'56	6.42018 AU
minimum elong	3576 Mar 30 11:59	10°Υ15'27	0°58'28	morning rise	3581 Oct 08 20:07	6°♄23'34	
max. Earth dist.	3576 Mar 30 15:59	10°Υ17'52	5.95970 AU	retrograde	3582 Feb 06 15:54	23°♄17'35	
morning rise	3576 Apr 12 15:47	13°Υ26'30		opposition	3582 Apr 08 01:47	18°♄21'51	1°28'27
	3576 Jul 01 20:59	0°♄		min. Earth dist.	3582 Apr 08 10:13	18°♄19'06	4.45504 AU
retrograde	3576 Aug 22 18:59	4°♄05'24		direct	3582 Jun 09 07:23	13°♄19'14	
	3576 Oct 14 16:33	30°♄Υ			3582 Oct 10 02:50	0°♄	
opposition	3576 Oct 21 15:31	29°Υ04'19	-1°-31'-38	evening set	3582 Oct 13 15:36	0°♄45'10	
min. Earth dist.	3576 Oct 20 23:42	29°Υ09'37	3.93675 AU				
direct	3576 Dec 18 18:01	24°Υ10'26		conjunction	3582 Oct 26 16:07	3°♄33'05	1°01'20
	3577 Feb 17 20:16	0°♄		minimum elong	3582 Oct 26 16:08	3°♄33'06	1°01'21
evening set	3577 Apr 23 16:08	14°♄02'11		max. Earth dist.	3582 Oct 25 15:02	3°♄19'34	6.47020 AU
	3577 Apr 27 16:00	15°♄		morning rise	3582 Nov 08 13:53	6°♄19'42	
					3582 Dec 21 14:01	15°♄	
conjunction	3577 May 07 01:23	17°♄16'29	0°-56'-52	retrograde	3583 Mar 08 14:18	22°♄59'49	
minimum elong	3577 May 07 01:24	17°♄16'30	0°56'53	opposition	3583 May 08 08:49	18°♄06'37	1°23'18
max. Earth dist.	3577 May 08 15:42	17°♄39'42	5.93768 AU	min. Earth dist.	3583 May 09 09:18	17°♄58'46	4.46683 AU
morning rise	3577 May 20 13:31	20°♄32'19			3583 Jun 03 14:29	15°♄♄	
	3577 Jun 30 23:13	0°♄		direct	3583 Jul 10 02:34	13°♄04'40	
retrograde	3577 Sep 29 19:42	11°♄13'25			3583 Aug 15 19:29	15°♄	
min. Earth dist.	3577 Nov 27 00:40	6°♄20'02	3.96481 AU		3583 Nov 10 18:13	0°♄	
opposition	3577 Nov 28 08:24	6°♄09'14	-1°-10'-31	evening set	3583 Nov 13 03:11	0°♄30'41	
direct	3578 Jan 25 05:24	1°♄13'37		max. Earth dist.	3583 Nov 24 02:31	2°♄53'38	6.44236 AU
evening set	3578 May 31 11:23	20°♄50'54					
				conjunction	3583 Nov 25 22:39	3°♄17'41	0°49'38
conjunction	3578 Jun 14 03:26	24°♄04'53	0°-32'-44	minimum elong	3583 Nov 25 22:41	3°♄17'42	0°49'38
minimum elong	3578 Jun 14 03:28	24°♄04'55	0°32'46	morning rise	3583 Dec 08 15:44	6°♄03'41	
max. Earth dist.	3578 Jun 16 12:17	24°♄38'33	6.01239 AU	retrograde	3584 Apr 07 11:40	22°♄59'17	
morning rise	3578 Jun 27 21:38	27°♄19'45		opposition	3584 Jun 07 10:03	18°♄07'15	0°56'02
	3578 Jul 09 09:19	0°♄		min. Earth dist.	3584 Jun 08 22:14	17°♄55'44	4.40100 AU
retrograde	3578 Nov 04 17:51	17°♄12'20		direct	3584 Aug 09 02:00	13°♄06'42	
min. Earth dist.	3579 Jan 01 18:31	12°♄19'55	4.07722 AU		3584 Dec 08 19:46	0°♄	
opposition	3579 Jan 03 06:55	12°♄07'31	0°-22'-46	evening set	3584 Dec 12 17:11	0°♄51'33	
direct	3579 Mar 02 18:46	7°♄09'01		max. Earth dist.	3584 Dec 23 04:45	3°♄11'35	6.34295 AU
asc. node	3579 Jun 20 04:42	22°♄18'02					
evening set	3579 Jul 07 08:51	26°♄09'26		conjunction	3584 Dec 25 10:01	3°♄41'21	0°24'08
				minimum elong	3584 Dec 25 10:02	3°♄41'21	0°24'09
conjunction	3579 Jul 21 02:34	29°♄17'47	0°02'52	morning rise	3585 Jan 07 01:34	6°♄30'42	
minimum elong	3579 Jul 21 02:32	29°♄17'46	0°02'52	retrograde	3585 May 10 04:29	24°♄10'17	
behind sun begin	3579 Jul 20 18:11	29°♄13'00		opposition	3585 Jul 10 02:19	19°♄17'46	0°11'41
behind sun end	3579 Jul 21 10:53	29°♄22'31		min. Earth dist.	3585 Jul 11 15:12	19°♄05'59	4.27328 AU
max. Earth dist.	3579 Jul 23 05:53	29°♄47'08	6.15201 AU	direct	3585 Sep 09 22:33	14°♄19'14	
	3579 Jul 24 04:23	0°♄		desc. node	3585 Oct 09 20:42	15°♄40'36	
morning rise	3579 Aug 03 20:46	2°♄26'00			3586 Jan 01 15:41	0°♄	
	3579 Oct 04 04:20	15°♄		evening set	3586 Jan 13 08:31	2°♄39'06	
retrograde	3579 Dec 08 04:36	21°♄07'13		max. Earth dist.	3586 Jan 24 04:25	5°♄08'41	6.19713 AU
opposition	3580 Feb 05 22:09	16°♄04'23	0°29'56				
min. Earth dist.	3580 Feb 04 19:07	16°♄13'30	4.22909 AU	conjunction	3586 Jan 26 01:35	5°♄34'46	0°-9'-30
	3580 Feb 13 22:38	15°♄♄		minimum elong	3586 Jan 26 01:34	5°♄34'46	0°09'31
direct	3580 Apr 05 17:06	11°♄03'21		behind sun begin	3586 Jan 25 18:53	5°♄30'56	
	3580 May 27 09:08	15°♄		behind sun end	3586 Jan 26 08:14	5°♄38'36	
evening set	3580 Aug 10 09:01	29°♄21'30		morning rise	3586 Feb 07 18:22	8°♄30'39	
	3580 Aug 13 06:55	0°♄			3586 Mar 08 21:21	15°♄	
				retrograde	3586 Jun 14 08:19	27°♄16'35	
conjunction	3580 Aug 23 23:07	2°♄21'38	0°35'48	opposition	3586 Aug 13 23:08	22°♄22'09	0°-39'-25
minimum elong	3580 Aug 23 23:05	2°♄21'37	0°35'48	min. Earth dist.	3586 Aug 15 01:28	22°♄13'38	4.11914 AU
max. Earth dist.	3580 Aug 25 06:23	2°♄38'57	6.30384 AU	direct	3586 Oct 13 11:07	17°♄26'06	
morning rise	3580 Sep 06 11:43	5°♄20'49			3587 Jan 18 13:41	0°♄	
retrograde	3581 Jan 07 11:51	22°♄57'05		evening set	3587 Feb 15 21:12	6°♄29'26	
opposition	3581 Mar 08 13:46	17°♄57'48	1°09'55				
min. Earth dist.	3581 Mar 08 02:16	18°♄01'36	4.36851 AU	conjunction	3587 Feb 28 17:08	9°♄32'39	0°-41'-34
direct	3581 May 08 16:16	12°♄55'25		minimum elong	3587 Feb 28 17:06	9°♄32'38	0°41'35
	3581 Sep 09 05:54	0°♄		max. Earth dist.	3587 Feb 27 16:39	9°♄18'02	6.04805 AU
evening set	3581 Sep 12 07:59	0°♄39'44		morning rise	3587 Mar 13 14:41	12°♄36'56	
					3587 Jun 10 19:34	0°♄	




























































































































retrograde	3587 Jul 21 17:08	2°♄34'18		direct	3593 May 13 04:38	17°♎21'34	
	3587 Aug 31 23:05	30°♊			3593 Aug 23 18:33	0°♎	
opposition	3587 Sep 19 22:27	27°♊36'34	-1°-20'00	evening set	3593 Sep 16 18:02	5°♎01'26	
min. Earth dist.	3587 Sep 20 03:02	27°♊35'03	3.98885 AU				
direct	3587 Nov 17 22:32	22°♊42'27		conjunction	3593 Sep 30 00:22	7°♎53'03	0°58'16
	3588 Jan 26 16:28	0°♄		minimum elong	3593 Sep 30 00:21	7°♎53'03	0°58'16
evening set	3588 Mar 22 14:46	12°♄22'38		max. Earth dist.	3593 Sep 29 22:24	7°♎51'59	6.43367 AU
				morning rise	3593 Oct 13 04:02	10°♎43'20	
conjunction	3588 Apr 04 17:03	15°♄33'09	0°-59'-43	retrograde	3594 Feb 10 17:49	27°♎33'07	
minimum elong	3588 Apr 04 17:02	15°♄33'08	0°59'43	opposition	3594 Apr 12 05:57	22°♎37'48	1°29'05
max. Earth dist.	3588 Apr 05 03:21	15°♄39'24	5.94890 AU	min. Earth dist.	3594 Apr 12 16:19	22°♎34'26	4.46268 AU
morning rise	3588 Apr 17 21:52	18°♄45'12		direct	3594 Jun 13 13:01	17°♎35'13	
	3588 Jun 06 18:50	0°♊			3594 Sep 23 22:06	0°♎	
retrograde	3588 Aug 28 07:14	9°♊28'39		evening set	3594 Oct 17 21:27	4°♎59'47	
min. Earth dist.	3588 Oct 26 06:51	4°♊33'10	3.93311 AU				
opposition	3588 Oct 27 00:52	4°♊27'07	-1°-30'-51	conjunction	3594 Oct 30 21:02	7°♎47'19	1°00'38
	3588 Dec 07 22:26	30°♊		minimum elong	3594 Oct 30 21:03	7°♎47'19	1°00'37
direct	3588 Dec 24 01:41	29°♄33'12		max. Earth dist.	3594 Oct 29 15:33	7°♎31'24	6.47130 AU
	3589 Jan 09 03:15	0°♊		morning rise	3594 Nov 12 18:03	10°♎33'35	
	3589 Apr 10 08:39	15°♊			3594 Dec 03 21:40	15°♎	
evening set	3589 Apr 29 00:41	19°♊25'26		retrograde	3595 Mar 12 20:11	27°♎14'08	
				opposition	3595 May 12 14:11	22°♎21'13	1°20'44
conjunction	3589 May 12 11:02	22°♊40'06	0°-54'-38	min. Earth dist.	3595 May 13 18:03	22°♎12'18	4.46133 AU
minimum elong	3589 May 12 11:03	22°♊40'07	0°54'38	direct	3595 Jul 14 09:27	17°♎19'21	
max. Earth dist.	3589 May 14 05:26	23°♊05'44	5.94162 AU		3595 Oct 25 16:11	0°♊	
morning rise	3589 May 26 00:24	25°♊56'17		evening set	3595 Nov 17 08:00	4°♊47'19	
	3589 Jun 12 04:56	0°♋		max. Earth dist.	3595 Nov 28 03:40	7°♊08'42	6.43046 AU
retrograde	3589 Oct 05 00:56	16°♋33'32					
min. Earth dist.	3589 Dec 02 03:33	11°♋40'50	3.97620 AU	conjunction	3595 Nov 30 03:03	7°♊34'35	0°46'48
opposition	3589 Dec 03 13:55	11°♋29'08	-1°-4'-53	minimum elong	3595 Nov 30 03:05	7°♊34'36	0°46'49
direct	3590 Jan 30 10:35	6°♋33'14		morning rise	3595 Dec 12 19:50	10°♊20'56	
evening set	3590 Jun 05 19:07	26°♋06'15		retrograde	3596 Apr 11 21:41	27°♊21'47	
				opposition	3596 Jun 11 20:13	22°♊29'45	0°50'43
conjunction	3590 Jun 19 11:38	29°♋19'39	0°-28'-2	min. Earth dist.	3596 Jun 13 08:54	22°♊18'03	4.38340 AU
minimum elong	3590 Jun 19 11:40	29°♋19'40	0°28'03	direct	3596 Aug 13 09:08	17°♊29'21	
max. Earth dist.	3590 Jun 21 20:32	29°♋53'11	6.03014 AU		3596 Nov 22 10:45	0°♋	
	3590 Jun 22 08:06	0°♌		evening set	3596 Dec 17 01:03	5°♋19'21	
morning rise	3590 Jul 03 06:15	2°♌33'50		max. Earth dist.	3596 Dec 27 13:40	7°♋40'39	6.32101 AU
retrograde	3590 Nov 09 14:51	22°♌16'28					
min. Earth dist.	3591 Jan 06 16:59	17°♌23'53	4.09919 AU	conjunction	3596 Dec 29 17:53	8°♋09'58	0°19'46
opposition	3591 Jan 08 04:34	17°♌11'46	0°-15'-7	minimum elong	3596 Dec 29 17:54	8°♋09'59	0°19'45
direct	3591 Mar 07 21:26	12°♌12'51		morning rise	3597 Jan 11 09:21	11°♋00'13	
asc. node	3591 Apr 29 18:10	16°♌28'59		retrograde	3597 May 15 00:09	28°♋49'12	
	3591 Jul 07 12:39	0°♍		opposition	3597 Jul 14 20:21	23°♋56'33	0°04'37
evening set	3591 Jul 12 10:26	1°♍06'26		min. Earth dist.	3597 Jul 16 09:10	23°♋44'47	4.24838 AU
				desc. node	3597 Aug 19 17:55	19°♋59'07	
conjunction	3591 Jul 26 04:00	4°♍13'35	0°07'56	direct	3597 Sep 14 12:30	18°♋58'21	
minimum elong	3591 Jul 26 03:59	4°♍13'34	0°07'55		3597 Dec 15 07:28	0°♌	
behind sun begin	3591 Jul 25 20:32	4°♍09'21		evening set	3598 Jan 17 23:07	7°♌25'31	
behind sun end	3591 Jul 26 11:26	4°♍17'47		max. Earth dist.	3598 Jan 28 19:58	9°♌56'34	6.17132 AU
max. Earth dist.	3591 Jul 28 06:58	4°♍42'34	6.17640 AU				
morning rise	3591 Aug 08 21:29	7°♍20'26		conjunction	3598 Jan 30 16:20	10°♌22'21	0°-14'-22
	3591 Sep 13 07:59	15°♍		minimum elong	3598 Jan 30 16:19	10°♌22'20	0°14'22
retrograde	3591 Dec 12 16:42	25°♍50'32		behind sun begin	3598 Jan 30 12:26	10°♌20'06	
min. Earth dist.	3592 Feb 09 09:32	20°♍56'51	4.25352 AU	behind sun end	3598 Jan 30 20:12	10°♌24'35	
opposition	3592 Feb 10 11:20	20°♍48'11	0°36'34	morning rise	3598 Feb 12 09:49	13°♌19'34	
direct	3592 Apr 10 10:33	15°♍46'54			3598 Feb 19 16:30	15°♌	
	3592 Jul 27 16:03	0°♎			3598 May 11 18:03	0°♏	
evening set	3592 Aug 15 02:31	3°♎58'27		retrograde	3598 Jun 19 12:12	2°♏17'11	
					3598 Jul 28 14:54	30°♏	
conjunction	3592 Aug 28 15:32	6°♎57'14	0°39'33	opposition	3598 Aug 19 02:07	27°♏22'18	0°-46'-15
minimum elong	3592 Aug 28 15:30	6°♎57'13	0°39'33	min. Earth dist.	3598 Aug 20 01:06	27°♏14'51	4.09462 AU
max. Earth dist.	3592 Aug 29 17:26	7°♎11'30	6.32620 AU	direct	3598 Oct 18 08:03	22°♏26'34	
morning rise	3592 Sep 11 03:13	9°♎55'02			3598 Dec 29 16:15	0°♏	
retrograde	3593 Jan 11 18:13	27°♎22'54		evening set	3599 Feb 20 20:13	11°♏37'10	
opposition	3593 Mar 12 20:57	22°♎24'06	1°13'49				
min. Earth dist.	3593 Mar 12 12:58	22°♎26'45	4.38718 AU	conjunction	3599 Mar 05 17:03	14°♏41'39	0°-45'-16

minimum elong	3599 Mar 05 17:01	14° ✕ 41'38	0°45'17
max. Earth dist.	3599 Mar 04 22:42	14° ✕ 30'40	6.02721 AU
morning rise	3599 Mar 18 15:22	17° ✕ 47'14	
	3599 May 13 08:55	0° Υ	
retrograde	3599 Jul 27 06:04	7° Υ 54'16	
opposition	3599 Sep 25 08:29	2° Υ 56'00	-1°-23'-41
min. Earth dist.	3599 Sep 25 10:09	2° Υ 55'27	3.97405 AU
	3599 Oct 19 04:33	30° ℞	
direct	3599 Nov 23 05:02	28° ✕ 02'03	
	3599 Dec 27 18:37	0° Υ	
evening set	3600 Mar 27 21:24	17° Υ 46'01	
conjunction	3600 Apr 10 00:41	20° Υ 57'21	-1°00'-28
minimum elong	3600 Apr 10 00:41	20° Υ 57'21	1°00'30
max. Earth dist.	3600 Apr 10 16:02	21° Υ 06'41	5.94144 AU
morning rise	3600 Apr 23 06:51	24° Υ 10'19	
	3600 May 18 00:10	0° ♄	
retrograde	3600 Sep 02 17:57	14° ♄ 56'05	
opposition	3600 Nov 01 11:26	9° ♄ 53'58	-1°-29'-13
min. Earth dist.	3600 Oct 31 13:12	10° ♄ 01'27	3.93419 AU
direct	3600 Dec 29 09:15	4° ♄ 59'52	

evening set	3600 Mar 27 21:24	17° Υ 46'01		evening set	3605 Sep 21 04:15	9° Ω 22'40	
conjunction	3600 Apr 10 00:41	20° Υ 57'21	-1°00'-28	conjunction	3605 Oct 04 09:27	12° Ω 13'30	0°59'35
minimum elong	3600 Apr 10 00:41	20° Υ 57'21	1°00'30	minimum elong	3605 Oct 04 09:26	12° Ω 13'30	0°59'35
max. Earth dist.	3600 Apr 10 16:02	21° Υ 06'41	5.94144 AU	max. Earth dist.	3605 Oct 04 01:38	12° Ω 09'17	6.44346 AU
morning rise	3600 Apr 23 06:51	24° Υ 10'19		morning rise	3605 Oct 17 12:15	15° Ω 03'02	
	3600 May 18 00:10	0° \mathcal{B}			3606 Jan 11 06:28	0° \mathcal{M}	
retrograde	3600 Sep 02 17:57	14° \mathcal{B} 56'05		retrograde	3606 Feb 14 23:34	1° \mathcal{M} 49'57	
opposition	3600 Nov 01 11:26	9° \mathcal{B} 53'58	-1°-29'-13		3606 Mar 21 15:29	30° \mathcal{R} Ω	
min. Earth dist.	3600 Oct 31 13:12	10° \mathcal{B} 01'27	3.93419 AU	opposition	3606 Apr 16 11:24	26° Ω 55'05	1°29'17
direct	3600 Dec 29 09:15	4° \mathcal{B} 59'52		min. Earth dist.	3606 Apr 17 01:24	26° Ω 50'33	4.46663 AU
	3601 Mar 22 05:16	15° \mathcal{B}		direct	3606 Jun 17 21:29	21° Ω 52'33	
evening set	3601 May 04 10:29	24° \mathcal{B} 50'29			3606 Sep 05 18:22	0° \mathcal{M}	
				evening set	3606 Oct 22 04:00	9° \mathcal{M} 16'47	
conjunction	3601 May 17 21:48	28° \mathcal{B} 05'11	0°-51'-54	max. Earth dist.	3606 Nov 02 19:07	11° \mathcal{M} 46'55	6.46908 AU
minimum elong	3601 May 17 21:50	28° \mathcal{B} 05'12	0°51'55				
max. Earth dist.	3601 May 19 19:16	28° \mathcal{B} 32'36	5.95079 AU	conjunction	3606 Nov 04 03:00	12° \mathcal{M} 04'08	0°59'36
	3601 May 25 20:25	0° \mathcal{H}		minimum elong	3606 Nov 04 03:01	12° \mathcal{M} 04'08	0°59'35
morning rise	3601 May 31 12:09	1° \mathcal{H} 21'20		morning rise	3606 Nov 16 23:10	14° \mathcal{M} 50'13	
retrograde	3601 Oct 10 05:18	21° \mathcal{H} 52'13			3606 Nov 17 17:24	15° \mathcal{M}	
min. Earth dist.	3601 Dec 07 07:33	16° \mathcal{H} 59'30	3.99207 AU		3607 Feb 13 06:26	0° \mathcal{J}	
opposition	3601 Dec 08 18:42	16° \mathcal{H} 47'31	0°-58'-42	retrograde	3607 Mar 17 02:05	1° \mathcal{J} 32'23	
direct	3602 Feb 04 18:17	11° \mathcal{H} 51'08			3607 Apr 18 00:14	30° \mathcal{R} \mathcal{M}	
	3602 Jun 05 11:11	0° \mathcal{E}		opposition	3607 May 16 21:35	26° \mathcal{M} 39'42	1°17'42
evening set	3602 Jun 11 01:53	1° \mathcal{E} 18'19		min. Earth dist.	3607 May 18 02:26	26° \mathcal{M} 30'28	4.45320 AU
				direct	3607 Jul 18 15:26	21° \mathcal{M} 38'04	
conjunction	3602 Jun 24 18:59	4° \mathcal{E} 30'58	0°-23'-9		3607 Oct 07 15:01	0° \mathcal{J}	
minimum elong	3602 Jun 24 19:01	4° \mathcal{E} 30'59	0°23'10	evening set	3607 Nov 21 14:49	9° \mathcal{J} 08'41	
max. Earth dist.	3602 Jun 27 05:40	5° \mathcal{E} 05'21	6.05112 AU	max. Earth dist.	3607 Dec 02 08:34	11° \mathcal{J} 29'32	6.41702 AU
morning rise	3602 Jul 08 13:38	7° \mathcal{E} 44'11					
retrograde	3602 Nov 14 10:53	27° \mathcal{E} 15'50		conjunction	3607 Dec 04 09:21	11° \mathcal{J} 56'18	0°43'40
min. Earth dist.	3603 Jan 11 13:48	22° \mathcal{E} 23'12	4.12286 AU	minimum elong	3607 Dec 04 09:23	11° \mathcal{J} 56'19	0°43'40
opposition	3603 Jan 13 00:38	22° \mathcal{E} 11'22	0°-7'-25	morning rise	3607 Dec 17 01:49	14° \mathcal{J} 43'05	
asc. node	3603 Mar 09 00:52	17° \mathcal{E} 13'35			3608 Mar 12 15:09	0° \mathcal{Z}	
direct	3603 Mar 12 21:20	17° \mathcal{E} 12'05		retrograde	3608 Apr 16 11:44	1° \mathcal{Z} 49'45	
	3603 Jun 20 04:41	0° \mathcal{Q}			3608 May 21 12:34	30° \mathcal{R} \mathcal{J}	
evening set	3603 Jul 17 10:26	5° \mathcal{Q} 58'34		opposition	3608 Jun 16 09:02	26° \mathcal{J} 57'49	0°44'58
				min. Earth dist.	3608 Jun 17 23:17	26° \mathcal{J} 45'38	4.36534 AU
conjunction	3603 Jul 31 03:24	9° \mathcal{Q} 04'27	0°12'54	direct	3608 Aug 17 20:22	21° \mathcal{J} 57'46	
minimum elong	3603 Jul 31 03:23	9° \mathcal{Q} 04'26	0°12'54		3608 Nov 03 20:56	0° \mathcal{Z}	
behind sun begin	3603 Jul 30 22:26	9° \mathcal{Q} 01'39		evening set	3608 Dec 21 11:13	9° \mathcal{Z} 52'57	
behind sun end	3603 Jul 31 08:20	9° \mathcal{Q} 07'13		max. Earth dist.	3608 Dec 31 23:05	12° \mathcal{Z} 14'34	6.29981 AU
max. Earth dist.	3603 Aug 02 02:23	9° \mathcal{Q} 31'01	6.20058 AU				
morning rise	3603 Aug 13 20:26	12° \mathcal{Q} 09'57		conjunction	3609 Jan 03 04:00	12° \mathcal{Z} 44'25	0°15'09
	3603 Aug 26 14:59	15° \mathcal{Q}		minimum elong	3609 Jan 03 04:00	12° \mathcal{Z} 44'25	0°15'09
	3603 Nov 29 16:32	0° \mathcal{M}		behind sun begin	3609 Jan 03 01:02	12° \mathcal{Z} 42'46	
retrograde	3603 Dec 17 02:59	0° \mathcal{M} 29'39		behind sun end	3609 Jan 03 06:58	12° \mathcal{Z} 46'05	
	3604 Jan 03 11:00	30° \mathcal{R} \mathcal{Q}		morning rise	3609 Jan 15 19:41	15° \mathcal{Z} 35'36	
opposition	3604 Feb 14 23:23	25° \mathcal{Q} 27'44	0°42'55		3609 Mar 31 15:34	0° \approx	
min. Earth dist.	3604 Feb 14 00:01	25° \mathcal{Q} 35'35	4.27620 AU	retrograde	3609 May 19 20:58	3° \approx 33'57	
direct	3604 Apr 15 03:28	20° \mathcal{Q} 26'12		desc. node	3609 Jun 28 18:29	1° \approx 13'33	
	3604 Jul 09 15:32	0° \mathcal{M}			3609 Jul 09 07:18	30° \mathcal{R} \mathcal{Z}	
evening set	3604 Aug 19 18:45	8° \mathcal{M} 32'01		opposition	3609 Jul 19 16:54	28° \mathcal{Z} 41'06	0°-2'-41
				min. Earth dist.	3609 Jul 21 03:25	28° \mathcal{Z} 30'02	4.22560 AU
conjunction	3604 Sep 02 07:01	11° \mathcal{M} 29'38	0°43'05	direct	3609 Sep 19 03:34	23° \mathcal{Z} 43'19	
minimum elong	3604 Sep 02 07:00	11° \mathcal{M} 29'37	0°43'04		3609 Nov 24 18:56	0° \approx	
max. Earth dist.	3604 Sep 03 05:54	11° \mathcal{M} 42'11	6.34579 AU	evening set	3610 Jan 22 15:26	12° \approx 17'00	
morning rise	3604 Sep 15 17:26	14° \mathcal{M} 26'09		max. Earth dist.	3610 Feb 02 17:04	14° \approx 51'32	6.14916 AU
	3604 Dec 13 00:58	0° Ω			3610 Feb 03 07:33	15° \approx	
retrograde	3605 Jan 15 23:39	1° Ω 46'50					
	3605 Feb 18 18:41	30° \mathcal{R} \mathcal{M}		conjunction	3610 Feb 04 09:04	15° \approx 14'54	0°-19'-14
opposition	3605 Mar 17 03:44	26° \mathcal{M} 48'37	1°17'20	minimum elong	3610 Feb 04 09:02	15° \approx 14'53	0°19'14
min. Earth dist.	3605 Mar 16 22:11	26° \mathcal{M} 50'27	4.40247 AU	morning rise	3610 Feb 17 02:56	18° \approx 13'15	
direct	3605 May 17 14:42	21° \mathcal{M} 46'05			3610 Apr 13 08:07	0° \mathcal{H}	
	3605 Aug 05 11:00	0° Ω		retrograde	3610 Jun 24 18:59	7° \mathcal{H} 21'20	

opposition	3610 Aug 24 06:45	2° κ 26'06	0°-52'-51		3616 Feb 19 08:28	30° κ Ω	
min. Earth dist.	3610 Aug 25 03:32	2° κ 19'20	4.07509 AU	direct	3616 Apr 19 16:55	24° Ω 58'21	
	3610 Sep 12 21:16	30° κ ≈			3616 Jun 18 06:57	0° η	
direct	3610 Oct 23 08:36	27°≈30'47		evening set	3616 Aug 24 08:13	12° η 59'41	
	3610 Dec 02 02:04	0° κ					
evening set	3611 Feb 25 20:00	16° κ 46'41		conjunction	3616 Sep 06 19:32	15° η 56'18	0°46'15
				minimum elong	3616 Sep 06 19:30	15° η 56'17	0°46'15
conjunction	3611 Mar 10 17:28	19° κ 52'09	0°-48'-38	max. Earth dist.	3616 Sep 07 13:08	16° η 05'55	6.36104 AU
minimum elong	3611 Mar 10 17:26	19° κ 52'08	0°48'38	morning rise	3616 Sep 20 05:06	18° η 51'49	
max. Earth dist.	3611 Mar 10 03:07	19° κ 43'32	6.01219 AU		3616 Nov 15 09:41	0° Δ	
morning rise	3611 Mar 23 16:49	22° κ 58'50		retrograde	3617 Jan 20 03:51	6° Δ 06'58	
	3611 Apr 23 01:13	0° γ		opposition	3617 Mar 21 09:03	1° Δ 09'13	1°20'22
retrograde	3611 Aug 01 15:19	13° γ 12'57		min. Earth dist.	3617 Mar 21 06:22	1° Δ 10'06	4.41315 AU
opposition	3611 Sep 30 17:16	8° γ 14'08	-1°-26'-39		3617 Mar 30 05:40	30° κ η	
min. Earth dist.	3611 Sep 30 14:15	8° γ 15'08	3.96551 AU	direct	3617 May 21 23:28	26° η 06'36	
direct	3611 Nov 28 09:03	3° γ 20'21			3617 Jul 13 17:58	0° Δ	
evening set	3612 Apr 02 02:48	23° γ 05'54		evening set	3617 Sep 25 12:48	13° Δ 41'15	
conjunction	3612 Apr 15 07:06	26° γ 17'47	-1°00'-44	conjunction	3617 Oct 08 17:15	16° Δ 31'32	1°00'33
minimum elong	3612 Apr 15 07:06	26° γ 17'47	1°00'45	minimum elong	3617 Oct 08 17:14	16° Δ 31'32	1°00'33
max. Earth dist.	3612 Apr 16 03:29	26° γ 30'10	5.94009 AU	max. Earth dist.	3617 Oct 08 06:51	16° Δ 25'55	6.44893 AU
morning rise	3612 Apr 28 14:20	29° γ 31'18		morning rise	3617 Oct 21 18:55	19° Δ 20'28	
	3612 Apr 30 14:01	0° δ			3617 Dec 15 02:57	0° ℳ	
	3612 Jul 10 13:52	15° δ		retrograde	3618 Feb 19 03:05	6° ℳ 05'51	
retrograde	3612 Sep 08 01:21	20° δ 16'49		opposition	3618 Apr 20 16:25	1° ℳ 11'22	1°29'01
opposition	3612 Nov 06 18:42	15° δ 14'10	-1°-26'-51	min. Earth dist.	3618 Apr 21 08:17	1° ℳ 06'14	4.46685 AU
min. Earth dist.	3612 Nov 05 18:20	15° δ 22'24	3.94020 AU		3618 Apr 29 23:34	30° κ Δ	
	3612 Nov 08 12:39	15° κ δ		direct	3618 Jun 22 03:50	26° Δ 08'57	
direct	3613 Jan 03 16:33	10° δ 19'49			3618 Aug 14 02:05	0° ℳ	
	3613 Feb 26 20:22	15° δ		evening set	3618 Oct 26 10:36	13° ℳ 33'47	
evening set	3613 May 09 16:42	0° Π 07'14			3618 Nov 02 02:51	15° ℳ	
	3613 May 09 04:35	0° Π		max. Earth dist.	3618 Nov 06 20:58	16° ℳ 01'41	6.46402 AU
conjunction	3613 May 23 05:07	3° Π 21'49	0°-48'-51	conjunction	3618 Nov 08 08:45	16° ℳ 21'02	0°58'14
minimum elong	3613 May 23 05:09	3° Π 21'50	0°48'52	minimum elong	3618 Nov 08 08:46	16° ℳ 21'02	0°58'14
max. Earth dist.	3613 May 25 06:51	3° Π 51'41	5.96349 AU	morning rise	3618 Nov 21 04:26	19° ℳ 07'07	
morning rise	3613 Jun 05 20:12	6° Π 37'42			3619 Jan 15 17:23	0° ♁	
retrograde	3613 Oct 15 06:27	27° Π 00'57		retrograde	3619 Mar 21 10:46	5° ♁ 51'36	
min. Earth dist.	3613 Dec 12 07:30	22° Π 08'17	4.00993 AU	opposition	3619 May 21 05:39	0° ♁ 59'05	1°14'14
opposition	3613 Dec 13 19:07	21° Π 56'09	0°-52'-16	min. Earth dist.	3619 May 22 12:50	0° ♁ 49'07	4.44331 AU
direct	3614 Feb 09 20:53	16° Π 59'23			3619 May 28 23:36	30° κ ℳ	
	3614 May 19 03:42	0° ☾		direct	3619 Jul 23 00:07	25° ℳ 57'36	
evening set	3614 Jun 16 04:30	6° ☾ 20'23		evening set	3619 Sep 15 03:30	0° ♁	
				max. Earth dist.	3619 Nov 25 21:45	13° ♁ 31'04	
conjunction	3614 Jun 29 21:43	9° ☾ 32'09	0°-18'-16		3619 Dec 06 14:40	15° ♁ 51'55	6.40302 AU
minimum elong	3614 Jun 29 21:45	9° ☾ 32'10	0°18'16				
max. Earth dist.	3614 Jul 02 06:24	10° ☾ 05'11	6.07223 AU	conjunction	3619 Dec 08 16:04	16° ♁ 19'07	0°40'15
morning rise	3614 Jul 13 16:36	12° ☾ 44'25		minimum elong	3619 Dec 08 16:05	16° ♁ 19'08	0°40'15
	3614 Oct 13 15:28	0° Ω		morning rise	3619 Dec 21 08:13	19° ♁ 06'20	
retrograde	3614 Nov 19 00:41	2° Ω 05'33			3620 Feb 13 16:52	0° ♁	
	3614 Dec 25 04:28	30° κ ☾		retrograde	3620 Apr 21 00:14	6° ♁ 18'52	
min. Earth dist.	3615 Jan 16 06:28	27° ☾ 12'47	4.14504 AU	opposition	3620 Jun 20 22:32	1° ♁ 26'50	0°38'54
opposition	3615 Jan 17 16:18	27° ☾ 01'17	0°00'00	min. Earth dist.	3620 Jun 22 11:43	1° ♁ 14'58	4.34814 AU
asc. node	3615 Jan 17 15:46	27° ☾ 01'28			3620 Jul 02 10:58	30° κ ♁	
direct	3615 Mar 17 16:40	22° ☾ 01'36		direct	3620 Aug 22 06:21	26° ♁ 27'04	
	3615 Jun 01 02:17	0° Ω			3620 Oct 11 04:21	0° ♁	
evening set	3615 Jul 22 06:27	10° Ω 41'55		evening set	3620 Dec 25 21:29	14° ♁ 26'47	
				max. Earth dist.	3621 Jan 05 11:01	16° ♁ 49'57	6.28069 AU
conjunction	3615 Aug 04 23:06	13° Ω 46'40	0°17'38	conjunction	3621 Jan 07 14:09	17° ♁ 18'57	0°10'27
minimum elong	3615 Aug 04 23:05	13° Ω 46'39	0°17'38	minimum elong	3621 Jan 07 14:09	17° ♁ 18'57	0°10'27
max. Earth dist.	3615 Aug 06 19:11	14° Ω 11'29	6.22215 AU	behind sun begin	3621 Jan 07 07:52	17° ♁ 15'25	
	3615 Aug 10 09:23	15° Ω		behind sun end	3621 Jan 07 20:26	17° ♁ 22'30	
morning rise	3615 Aug 18 15:17	16° Ω 50'54		morning rise	3621 Jan 20 05:56	20° ♁ 10'57	
	3615 Oct 23 22:17	0° η			3621 Mar 07 17:45	0°≈	
retrograde	3615 Dec 21 11:37	5° η 01'28			3621 May 08 05:16	7°≈52'12	
min. Earth dist.	3616 Feb 18 11:44	0° η 06'56	4.29537 AU	desc. node	3621 May 24 18:54	8°≈17'49	
opposition	3616 Feb 19 08:16	0° η 00'04	0°48'49	retrograde			

opposition	3621 Jul 24 13:28	3°  24'41	0°-9'-59			3627 Feb 05 13:08	30° 	
min. Earth dist.	3621 Jul 25 23:24	3°  13'48	4.20562 AU	direct		3627 Mar 22 13:31	26°  52'24	
	3621 Aug 22 22:29	30° 				3627 May 06 17:13	0° 	
direct	3621 Sep 23 21:10	28°  27'14				3627 Jul 25 01:50	15° 	
	3621 Oct 25 13:55	0° 		evening set		3627 Jul 27 03:42	15°  27'46	
	3622 Jan 18 04:30	15° 						
evening set	3622 Jan 27 07:14	17°  06'11		conjunction		3627 Aug 09 19:51	18°  23'30	0°22'18
max. Earth dist.	3622 Feb 07 11:21	19°  42'51	6.12989 AU	minimum elong		3627 Aug 09 19:50	18°  23'30	0°22'18
				max. Earth dist.		3627 Aug 11 13:03	18°  54'36	6.24075 AU
conjunction	3622 Feb 09 01:10	20°  05'02	0°-23'-57	morning rise		3627 Aug 23 11:26	21°  23'43	
minimum elong	3622 Feb 09 01:09	20°  05'01	0°23'58			3627 Oct 02 07:57	0° 	
morning rise	3622 Feb 21 19:39	23°  04'27		retrograde		3627 Dec 25 20:19	9°  27'13	
	3622 Mar 24 12:29	0° 		opposition		3628 Feb 23 18:52	4°  27'20	0°54'31
retrograde	3622 Jun 29 21:45	12°  21'42		min. Earth dist.		3628 Feb 22 23:52	4°  27'41	4.31228 AU
opposition	3622 Aug 29 09:37	7°  25'59	0°-59'-1			3628 Apr 07 23:55	30° 	
min. Earth dist.	3622 Aug 30 02:38	7°  20'27	4.05822 AU	direct		3628 Apr 24 06:50	29°  23'42	
direct	3622 Oct 28 05:52	2°  30'57				3628 May 10 18:58	0° 	
evening set	3623 Mar 02 18:22	21°  51'25		evening set		3628 Aug 28 23:36	17°  27'06	
conjunction	3623 Mar 15 16:34	24°  57'47	0°-51'-36	conjunction		3628 Sep 11 10:02	20°  27'47	0°49'14
minimum elong	3623 Mar 15 16:32	24°  57'46	0°51'37	minimum elong		3628 Sep 11 10:00	20°  27'46	0°49'14
max. Earth dist.	3623 Mar 15 06:53	24°  51'58	5.99911 AU	max. Earth dist.		3628 Sep 12 00:11	20°  27'30	6.37526 AU
morning rise	3623 Mar 28 16:49	28°  05'28		morning rise		3628 Sep 24 18:28	23°  22'17	
	3623 Apr 05 17:23	0° 				3628 Oct 26 12:11	0° 	
retrograde	3623 Aug 06 23:38	18°  26'04		retrograde		3629 Jan 24 10:43	10°  23'14	
opposition	3623 Oct 05 23:58	13°  26'41	-1°-28'-54	opposition		3629 Mar 25 16:30	5°  23'05	1°23'02
min. Earth dist.	3623 Oct 05 18:25	13°  28'31	3.95759 AU	min. Earth dist.		3629 Mar 25 16:30	5°  23'05	4.42402 AU
direct	3623 Dec 03 13:06	8°  23'54		direct		3629 May 26 11:04	0°  23'33	
evening set	3624 Apr 07 06:22	28°  20'09		evening set		3629 Sep 29 23:20	18°  20'02	
	3624 Apr 14 03:17	0° 						
				conjunction		3629 Oct 13 02:45	20°  24'41	1°01'15
conjunction	3624 Apr 20 11:53	1°  32'40	-1°00'-30	minimum elong		3629 Oct 13 02:44	20°  24'41	1°01'14
minimum elong	3624 Apr 20 11:53	1°  32'40	1°00'31	max. Earth dist.		3629 Oct 12 12:22	20°  24'56	6.45585 AU
max. Earth dist.	3624 Apr 21 13:36	1°  48'18	5.93810 AU	morning rise		3629 Oct 26 03:35	23°  24'01	
morning rise	3624 May 03 20:12	4°  46'47				3629 Nov 25 12:28	0° 	
	3624 Jun 17 17:13	15° 		retrograde		3630 Feb 23 08:51	10°  26'22	
retrograde	3624 Sep 13 08:18	25°  32'17		opposition		3630 Apr 24 23:22	5°  23'14	1°28'19
opposition	3624 Nov 11 23:57	20°  29'16	-1°-23'-52	min. Earth dist.		3630 Apr 25 17:09	5°  26'30	4.46988 AU
min. Earth dist.	3624 Nov 10 21:37	20°  38'10	3.94459 AU	direct		3630 Jun 26 12:47	0°  29'58	
direct	3625 Jan 08 20:43	15°  34'44				3630 Oct 17 01:04	15° 	
	3625 Apr 22 02:23	0° 		evening set		3630 Oct 30 17:46	17°  24'10	
evening set	3625 May 14 22:17	5°  20'06		max. Earth dist.		3630 Nov 11 03:11	20°  21'37	6.46314 AU
conjunction	3625 May 28 11:29	8°  23'46	0°-45'-26	conjunction		3630 Nov 12 15:20	20°  24'12	0°56'36
minimum elong	3625 May 28 11:31	8°  23'48	0°45'27	minimum elong		3630 Nov 12 15:21	20°  24'12	0°56'37
max. Earth dist.	3625 May 30 13:58	9°  24'50	5.97354 AU	morning rise		3630 Nov 25 10:09	23°  27'02	
morning rise	3625 Jun 11 03:34	11°  25'02				3630 Dec 27 00:02	0° 	
	3625 Sep 13 16:26	0° 		retrograde		3631 Mar 25 17:16	10°  27'33	
retrograde	3625 Oct 20 05:04	2°  20'7'14		opposition		3631 May 25 14:15	5°  20'12	1°10'25
	3625 Nov 25 12:51	30° 		min. Earth dist.		3631 May 26 21:45	5°  20'09	4.43863 AU
min. Earth dist.	3625 Dec 17 05:58	27° 21'46	4.02445 AU	direct		3631 Jul 27 08:33	0° 21'00	
opposition	3625 Dec 18 18:23	27° 21'02'21	0°-45'-31	evening set		3631 Nov 30 04:16	17° 25'23	
direct	3626 Feb 14 21:47	22° 21'05'09		max. Earth dist.		3631 Dec 10 19:08	20° 27'29	6.39488 AU
	3626 Apr 29 12:04	0°						
evening set	3626 Jun 21 07:16	11° 21'42		conjunction		3631 Dec 12 21:57	20° 27'41'31	0°36'43
				minimum elong		3631 Dec 12 21:58	20° 27'41'32	0°36'43
conjunction	3626 Jul 05 00:55	14° 23'24'48	0°-13'-14	morning rise		3631 Dec 25 13:53	23° 28'57	
minimum elong	3626 Jul 05 00:56	14° 23'24'49	0°13'16			3632 Jan 25 08:01	0°	
behind sun begin	3626 Jul 04 20:14	14° 23'00'06		retrograde		3632 Apr 25 12:41	10° 24'53'32	
behind sun end	3626 Jul 05 05:38	14° 23'35'32		opposition		3632 Jun 25 10:50	5° 23'25	0°32'46
max. Earth dist.	3626 Jul 07 09:04	15° 20'52'25	6.09000 AU	min. Earth dist.		3632 Jun 27 00:50	5° 24'18	4.33675 AU
morning rise	3626 Jul 18 19:43	17° 24'41'14		direct		3632 Aug 26 18:03	0° 23'53'53	
	3626 Sep 15 04:54	0°		evening set		3632 Dec 30 05:31	18° 23'56'10	
retrograde	3626 Nov 23 17:45	6° 25'56'18		max. Earth dist.		3633 Jan 09 19:53	21° 20'20'16	6.26700 AU
asc. node	3626 Nov 27 14:32	6° 25'54'48						
min. Earth dist.	3627 Jan 21 01:03	2° 20'03'08	4.16401 AU	conjunction		3633 Jan 11 22:10	21° 23'48'51	0°05'52
opposition	3627 Jan 22 08:46	1° 25'22'23	0°07'28	minimum elong		3633 Jan 11 22:11	21° 23'48'52	0°05'53

behind sun begin	3633 Jan 11 14:34	21°  44'33		morning rise	3638 Jul 23 21:21	22°  40'15	
behind sun end	3633 Jan 12 05:48	21°  53'10			3638 Aug 26 02:04	0° 	
morning rise	3633 Jan 24 14:00	24°  41'26		asc. node	3638 Oct 08 12:16	7°  49'06	
	3633 Feb 17 14:45	0° 		retrograde	3638 Nov 28 07:49	11°  44'27	
desc. node	3633 Mar 20 00:36	5°  59'44		min. Earth dist.	3639 Jan 25 16:22	6°  51'31	4.17994 AU
retrograde	3633 May 29 10:58	12°  55'01		opposition	3639 Jan 27 00:01	6°  40'48	0°14'42
opposition	3633 Jul 29 06:43	8°  01'35	0°-16'-55	direct	3639 Mar 27 07:21	1°  40'29	
min. Earth dist.	3633 Jul 30 14:34	7°  51'22	4.19045 AU		3639 Jul 08 03:08	15° 	
direct	3633 Sep 28 10:03	3°  04'26		evening set	3639 Aug 01 00:36	20°  11'48	
	3634 Jan 01 15:36	15° 					
evening set	3634 Jan 31 19:27	21°  47'13		conjunction	3639 Aug 14 16:10	23°  14'34	0°26'45
max. Earth dist.	3634 Feb 12 02:15	24°  26'00	6.11447 AU	minimum elong	3639 Aug 14 16:08	23°  14'34	0°26'45
				max. Earth dist.	3639 Aug 16 05:59	23°  35'43	6.25748 AU
conjunction	3634 Feb 13 13:37	24°  46'48	0°-28'-17	morning rise	3639 Aug 28 06:59	26°  16'39	
minimum elong	3634 Feb 13 13:36	24°  46'47	0°28'18		3639 Sep 14 08:27	0° 	
morning rise	3634 Feb 26 08:37	27°  47'05		retrograde	3639 Dec 30 06:49	14°  11'36	
	3634 Mar 07 21:31	0° 		opposition	3640 Feb 28 05:14	9°  11'09	0°59'46
retrograde	3634 Jul 04 22:26	17°  12'24		min. Earth dist.	3640 Feb 27 13:00	9°  16'34	4.32830 AU
opposition	3634 Sep 03 08:15	12°  16'13	-1°-4'-30	direct	3640 Apr 28 22:48	4°  11'05	
min. Earth dist.	3634 Sep 03 23:43	12°  11'10	4.04366 AU	evening set	3640 Sep 02 14:23	22°  11'48	
direct	3634 Nov 02 01:16	7°  11'19					
evening set	3635 Mar 07 12:27	26°  45'47		conjunction	3640 Sep 15 23:57	24°  11'32	0°51'52
				minimum elong	3640 Sep 15 23:56	24°  11'31	0°51'52
conjunction	3635 Mar 20 11:32	29°  53'04	0°-54'-4	max. Earth dist.	3640 Sep 16 11:21	25°  03'44	6.38915 AU
minimum elong	3635 Mar 20 11:30	29°  53'03	0°54'05	morning rise	3640 Sep 29 07:17	27°  51'02	
max. Earth dist.	3635 Mar 20 05:42	29°  49'33	5.98685 AU		3640 Oct 09 07:51	0° 	
	3635 Mar 20 23:01	0° 		retrograde	3641 Jan 28 15:20	14°  55'39	
morning rise	3635 Apr 02 12:40	3°  01'43		opposition	3641 Mar 29 23:36	9°  58'51	1°25'10
retrograde	3635 Aug 12 02:55	23°  28'21		min. Earth dist.	3641 Mar 30 01:05	9°  58'21	4.43481 AU
opposition	3635 Oct 11 01:37	18°  28'30	-1°-30'-25	direct	3641 May 30 20:52	4°  56'14	
min. Earth dist.	3635 Oct 10 17:40	18°  31'09	3.94918 AU	evening set	3641 Oct 04 08:53	22°  26'13	
direct	3635 Dec 08 10:35	13°  34'44					
	3636 Mar 29 00:06	0° 		conjunction	3641 Oct 17 11:21	25°  15'13	1°01'33
evening set	3636 Apr 12 06:20	3°  24'22		minimum elong	3641 Oct 17 11:21	25°  15'12	1°01'33
				max. Earth dist.	3641 Oct 16 18:17	25°  06'01	6.46244 AU
conjunction	3636 Apr 25 12:48	6°  37'34	0°-59'-51	morning rise	3641 Oct 30 11:07	28°  02'53	
minimum elong	3636 Apr 25 12:49	6°  37'35	0°59'51		3641 Nov 08 15:33	0° 	
max. Earth dist.	3636 Apr 26 16:16	6°  54'15	5.93420 AU	retrograde	3642 Feb 27 14:08	14°  44'17	
morning rise	3636 May 08 22:29	9°  52'26		opposition	3642 Apr 29 05:50	9°  50'29	1°27'05
	3636 May 30 15:01	15° 		min. Earth dist.	3642 Apr 30 02:04	9°  43'58	4.47162 AU
	3636 Aug 29 13:56	0° 		direct	3642 Jun 30 21:59	4°  48'18	
retrograde	3636 Sep 18 09:41	0°  38'43			3642 Sep 29 22:51	15° 	
	3636 Oct 08 03:54	30°  44'58		evening set	3642 Nov 04 00:29	22°  12'15	
min. Earth dist.	3636 Nov 15 20:25	25°  44'58	3.94576 AU	max. Earth dist.	3642 Nov 15 05:06	24°  37'23	6.45951 AU
opposition	3636 Nov 17 00:55	25°  35'19	-1°-20'-23				
direct	3637 Jan 13 20:45	20°  40'26		conjunction	3642 Nov 16 21:14	24°  59'07	0°54'38
	3637 Apr 03 14:21	0° 		minimum elong	3642 Nov 16 21:16	24°  59'08	0°54'38
evening set	3637 May 20 00:50	10°  25'22		morning rise	3642 Nov 29 15:35	27°  44'54	
					3642 Dec 10 04:19	0° 	
conjunction	3637 Jun 02 15:10	13°  40'05	0°-41'-49	retrograde	3643 Mar 30 01:45	14°  32'30	
minimum elong	3637 Jun 02 15:12	13°  40'06	0°41'49	opposition	3643 May 29 23:00	9°  34'01	1°06'09
max. Earth dist.	3637 Jun 04 20:07	14°  11'44	5.97986 AU	min. Earth dist.	3643 May 31 08:13	9°  29'39	4.42971 AU
morning rise	3637 Jun 16 07:58	16°  55'56		direct	3643 Jul 31 17:11	4°  39'11	
	3637 Aug 15 22:46	0° 		evening set	3643 Dec 04 10:59	22°  31'03	
retrograde	3637 Oct 25 03:46	7°  50'75		max. Earth dist.	3643 Dec 15 01:49	24°  36'33	6.38122 AU
min. Earth dist.	3637 Dec 22 03:45	2°  51'08	4.03501 AU				
opposition	3637 Dec 23 15:29	2°  50'27	0°-38'-41	conjunction	3643 Dec 17 04:31	25°  37'04	0°32'54
	3638 Jan 08 03:55	30°  44'58		minimum elong	3643 Dec 17 04:32	25°  37'04	0°32'54
direct	3638 Feb 19 21:22	27°  44'58		morning rise	3643 Dec 29 20:06	27°  52'30	
	3638 Apr 03 12:33	0° 			3644 Jan 08 13:26	0° 	
evening set	3638 Jun 26 08:36	16°  58'53		retrograde	3644 Apr 30 01:47	15°  51'15	
				opposition	3644 Jun 30 00:50	10°  23'04	0°26'16
conjunction	3638 Jul 10 02:30	19°  52'29	0°-8'-16	min. Earth dist.	3644 Jul 01 14:34	10°  23'03	4.31903 AU
minimum elong	3638 Jul 10 02:30	19°  52'29	0°08'17	direct	3644 Aug 31 04:41	5°  23'53	
behind sun begin	3638 Jul 09 19:08	19°  52'15		evening set	3645 Jan 03 15:56	23°  31'05	
behind sun end	3638 Jul 10 09:52	19°  53'44		max. Earth dist.	3645 Jan 14 06:28	25°  56'00	6.24651 AU
max. Earth dist.	3638 Jul 12 10:30	20°  50'15	6.10392 AU				

conjunction	3645 Jan 16 08:30	26°☾24'35	0°01'02	behind sun end	3650 Jul 15 14:28	24°☾36'21	
minimum elong	3645 Jan 16 08:29	26°☾24'35	0°01'02	max. Earth dist.	3650 Jul 17 12:09	25°☾02'40	6.12682 AU
behind sun begin	3645 Jan 16 00:31	26°☾20'03		morning rise	3650 Jul 29 00:45	27°☾41'09	
behind sun end	3645 Jan 16 16:28	26°☾29'07			3650 Aug 08 06:20	0°♈	
desc. node	3645 Jan 27 20:05	29°☾01'53		asc. node	3650 Aug 18 03:50	2°♈11'22	
morning rise	3645 Jan 29 00:39	29°☾18'07			3650 Nov 01 12:47	15°♈	
	3645 Feb 01 02:31	0°♈		retrograde	3650 Dec 02 23:01	16°♈34'15	
	3645 Apr 22 01:48	15°♈			3651 Jan 03 02:43	15°♈♈	
retrograde	3645 Jun 03 10:14	17°♈41'16		min. Earth dist.	3651 Jan 30 10:22	11°♈40'51	4.20429 AU
	3645 Jul 16 07:46	15°♈		opposition	3651 Jan 31 15:46	11°♈30'54	0°21'52
opposition	3645 Aug 03 04:07	12°♈47'34	0°-24'-7	direct	3651 Apr 01 05:24	6°♈30'14	
min. Earth dist.	3645 Aug 04 11:01	12°♈37'37	4.16846 AU		3651 Jun 19 03:35	15°♈	
direct	3645 Oct 03 03:44	7°♈50'42		evening set	3651 Aug 05 20:16	24°♈54'31	
	3645 Dec 13 01:43	15°♈					
evening set	3646 Feb 05 12:25	26°♈39'56		conjunction	3651 Aug 19 11:13	27°♈55'58	0°31'01
max. Earth dist.	3646 Feb 16 23:23	29°♈21'53	6.09299 AU	minimum elong	3651 Aug 19 11:12	27°♈55'57	0°31'00
				max. Earth dist.	3651 Aug 20 23:14	28°♈15'59	6.28129 AU
conjunction	3646 Feb 18 07:12	29°♈40'41	0°-32'-41		3651 Aug 28 18:35	0°♈	
minimum elong	3646 Feb 18 07:10	29°♈40'40	0°32'41	morning rise	3651 Sep 02 00:57	0°♈56'34	
	3646 Feb 19 15:53	0°♈		retrograde	3652 Jan 03 12:56	18°♈41'56	
morning rise	3646 Mar 03 02:48	2°♈42'11		opposition	3652 Mar 03 13:47	13°♈41'58	1°04'34
retrograde	3646 Jul 10 04:44	22°♈17'49		min. Earth dist.	3652 Mar 02 23:04	13°♈46'51	4.34968 AU
opposition	3646 Sep 08 12:42	17°♈21'15	-1°-9'-52	direct	3652 May 03 11:10	8°♈39'44	
min. Earth dist.	3646 Sep 09 01:15	17°♈17'09	4.02485 AU	evening set	3652 Sep 07 02:25	26°♈27'58	
direct	3646 Nov 06 23:44	12°♈26'40					
	3647 Mar 04 09:47	0°♈		conjunction	3652 Sep 20 10:49	29°♈21'33	0°54'09
evening set	3647 Mar 12 13:25	1°♈56'49		minimum elong	3652 Sep 20 10:47	29°♈21'32	0°54'08
				max. Earth dist.	3652 Sep 20 16:56	29°♈24'52	6.40638 AU
conjunction	3647 Mar 25 13:17	5°♈05'10	0°-56'-16		3652 Sep 23 09:37	0°♈	
minimum elong	3647 Mar 25 13:16	5°♈05'09	0°56'17	morning rise	3652 Oct 03 17:04	2°♈13'54	
max. Earth dist.	3647 Mar 25 10:55	5°♈03'44	5.97235 AU	retrograde	3653 Feb 01 19:30	19°♈12'39	
morning rise	3647 Apr 07 15:42	8°♈15'01		opposition	3653 Apr 03 04:09	14°♈16'19	1°26'46
retrograde	3647 Aug 17 12:04	28°♈48'24		min. Earth dist.	3653 Apr 03 09:28	14°♈14'35	4.44679 AU
opposition	3647 Oct 16 10:06	23°♈48'02	-1°-31'-18	direct	3653 Jun 04 06:13	9°♈13'39	
min. Earth dist.	3647 Oct 15 22:21	23°♈51'58	3.94081 AU	evening set	3653 Oct 08 15:11	26°♈40'55	
direct	3647 Dec 13 15:49	18°♈54'17					
	3648 Mar 10 15:04	0°♈		conjunction	3653 Oct 21 16:48	29°♈29'21	1°01'31
evening set	3648 Apr 17 13:07	8°♈46'04		minimum elong	3653 Oct 21 16:48	29°♈29'21	1°01'32
				max. Earth dist.	3653 Oct 20 19:38	29°♈17'56	6.46812 AU
conjunction	3648 Apr 30 20:58	11°♈59'56	0°-58'-39		3653 Oct 24 01:43	0°♈	
minimum elong	3648 Apr 30 20:59	11°♈59'57	0°58'40	morning rise	3653 Nov 03 15:40	2°♈16'27	
max. Earth dist.	3648 May 02 06:21	12°♈20'12	5.93301 AU		3654 Jan 10 14:34	15°♈	
	3648 May 13 06:09	15°♈		retrograde	3654 Mar 03 16:34	18°♈56'37	
morning rise	3648 May 14 07:41	15°♈15'23			3654 Apr 25 23:34	15°♈♈	
	3648 Jul 21 23:39	0°♈		opposition	3654 May 03 09:58	14°♈03'03	1°25'27
retrograde	3648 Sep 23 18:45	6°♈00'44		min. Earth dist.	3654 May 04 08:07	13°♈55'56	4.47080 AU
min. Earth dist.	3648 Nov 21 02:00	1°♈07'08	3.95210 AU	direct	3654 Jul 05 02:28	9°♈00'54	
opposition	3648 Nov 22 07:51	0°♈57'00	-1°-16'-2		3654 Sep 10 10:03	15°♈	
	3648 Nov 29 08:49	30°♈		evening set	3654 Nov 08 04:30	26°♈25'29	
direct	3649 Jan 19 04:08	26°♈01'54		max. Earth dist.	3654 Nov 19 06:45	28°♈49'36	6.45217 AU
	3649 Mar 09 20:29	0°♈					
evening set	3649 May 25 09:00	15°♈44'04		conjunction	3654 Nov 21 00:44	29°♈12'25	0°52'25
				minimum elong	3654 Nov 21 00:46	29°♈12'25	0°52'24
conjunction	3649 Jun 08 00:07	18°♈58'33	0°-37'-41		3654 Nov 24 16:17	0°♈	
minimum elong	3649 Jun 08 00:10	18°♈58'34	0°37'42	morning rise	3654 Dec 03 18:28	1°♈58'16	
max. Earth dist.	3649 Jun 10 07:43	19°♈31'38	5.99320 AU	retrograde	3655 Apr 03 08:58	18°♈49'25	
morning rise	3649 Jun 21 17:40	22°♈14'04		opposition	3655 Jun 03 06:43	13°♈57'17	1°01'38
	3649 Jul 25 22:37	0°♈		min. Earth dist.	3655 Jun 04 17:51	13°♈46'05	4.41611 AU
retrograde	3649 Oct 30 02:33	12°♈17'36		direct	3655 Aug 05 00:04	8°♈56'24	
min. Earth dist.	3649 Dec 27 02:22	7°♈25'20	4.05398 AU	evening set	3655 Dec 08 16:51	26°♈37'14	
opposition	3649 Dec 28 15:27	7°♈12'42	0°-31'-19	max. Earth dist.	3655 Dec 19 04:47	28°♈56'48	6.36228 AU
direct	3650 Feb 24 23:17	2°♈14'44					
evening set	3650 Jul 01 12:21	21°♈22'04		conjunction	3655 Dec 21 10:02	29°♈26'25	0°28'56
				minimum elong	3655 Dec 21 10:03	29°♈26'25	0°28'57
conjunction	3650 Jul 15 06:09	24°♈31'35	0°-3'-8		3655 Dec 23 22:26	0°♈	
minimum elong	3650 Jul 15 06:08	24°♈31'35	0°03'08	morning rise	3656 Jan 03 01:44	2°♈15'03	
behind sun begin	3650 Jul 14 21:47	24°♈26'48		retrograde	3656 May 04 17:31	19°♈45'57	

opposition	3656 Jul 04 15:25	14°♄53'37	0°19'38	direct	3662 Mar 02 03:04	7°♄20'43	
min. Earth dist.	3656 Jul 06 05:11	14°♄41'33	4.29578 AU	asc. node	3662 Jun 27 09:29	24°♄15'55	
direct	3656 Sep 04 15:48	9°♄54'39		evening set	3662 Jul 06 14:41	26°♄21'04	
desc. node	3656 Dec 08 00:06	21°♄19'22					
evening set	3657 Jan 08 03:16	28°♄08'39		conjunction	3662 Jul 20 08:27	29°♄29'27	0°02'08
	3657 Jan 16 06:00	0°♄		minimum elong	3662 Jul 20 08:26	29°♄29'27	0°02'08
max. Earth dist.	3657 Jan 18 20:34	0°♄35'55	6.22098 AU	behind sun begin	3662 Jul 20 00:03	29°♄24'41	
				behind sun end	3662 Jul 20 16:49	29°♄34'13	
conjunction	3657 Jan 20 20:11	1°♄03'17	0°-3'-52		3662 Jul 22 13:51	0°♄	
minimum elong	3657 Jan 20 20:11	1°♄03'17	0°03'54	max. Earth dist.	3662 Jul 22 14:06	0°♄00'09	6.15098 AU
behind sun begin	3657 Jan 20 12:18	0°♄58'46		morning rise	3662 Aug 03 02:29	2°♄37'42	
behind sun end	3657 Jan 21 04:05	1°♄07'48			3662 Oct 02 05:58	15°♄	
morning rise	3657 Feb 02 12:36	3°♄58'01		retrograde	3662 Dec 07 12:20	21°♄19'45	
	3657 Mar 26 17:52	15°♄		min. Earth dist.	3663 Feb 04 01:54	16°♄26'22	4.22835 AU
retrograde	3657 Jun 08 11:40	22°♄32'30		opposition	3663 Feb 05 06:04	16°♄16'53	0°28'51
opposition	3657 Aug 08 03:44	17°♄38'31	0°-31'-14		3663 Feb 14 20:58	15°♄	
min. Earth dist.	3657 Aug 09 08:43	17°♄29'10	4.14262 AU	direct	3663 Apr 05 23:45	11°♄15'59	
	3657 Aug 29 18:25	15°♄			3663 May 26 03:56	15°♄	
direct	3657 Oct 07 21:30	12°♄42'03		evening set	3663 Aug 10 15:06	29°♄33'53	
	3657 Nov 15 10:57	15°♄			3663 Aug 12 14:31	0°♄	
	3658 Feb 03 07:06	0°♄					
evening set	3658 Feb 10 08:07	1°♄38'58		conjunction	3663 Aug 24 05:03	2°♄34'02	0°35'05
max. Earth dist.	3658 Feb 21 22:19	4°♄23'44	6.06910 AU	minimum elong	3663 Aug 24 05:01	2°♄34'01	0°35'05
				max. Earth dist.	3663 Aug 25 11:36	2°♄50'57	6.30327 AU
conjunction	3658 Feb 23 03:21	4°♄40'59	0°-36'-53	morning rise	3663 Sep 06 17:57	5°♄33'19	
minimum elong	3658 Feb 23 03:19	4°♄40'58	0°36'54	retrograde	3664 Jan 07 20:29	23°♄10'17	
morning rise	3658 Mar 07 23:57	7°♄43'55		opposition	3664 Mar 07 21:52	18°♄10'51	1°09'01
retrograde	3658 Jul 15 13:44	27°♄30'46		min. Earth dist.	3664 Mar 07 10:41	18°♄14'34	4.36812 AU
opposition	3658 Sep 13 20:32	22°♄33'39	-1°-14'-47	direct	3664 May 08 00:25	13°♄08'30	
min. Earth dist.	3658 Sep 14 04:57	22°♄30'53	4.00532 AU		3664 Sep 07 12:03	0°♄	
direct	3658 Nov 12 02:04	17°♄39'18		evening set	3664 Sep 11 14:04	0°♄52'34	
	3659 Feb 14 14:10	0°♄					
evening set	3659 Mar 17 17:35	7°♄15'03		conjunction	3664 Sep 24 21:38	3°♄45'14	0°56'10
				minimum elong	3664 Sep 24 21:37	3°♄45'13	0°56'10
conjunction	3659 Mar 30 18:38	10°♄24'31	0°-58'-2	max. Earth dist.	3664 Sep 25 00:40	3°♄46'52	6.41996 AU
minimum elong	3659 Mar 30 18:37	10°♄24'30	0°58'03	morning rise	3664 Oct 08 02:40	6°♄36'36	
max. Earth dist.	3659 Mar 30 23:24	10°♄27'24	5.95923 AU	retrograde	3665 Feb 05 22:43	23°♄31'01	
morning rise	3659 Apr 12 22:02	13°♄35'26		opposition	3665 Apr 07 09:24	18°♄35'11	1°27'59
	3659 Jul 01 02:28	0°♄		min. Earth dist.	3665 Apr 07 16:36	18°♄32'50	4.45492 AU
retrograde	3659 Aug 23 01:55	4°♄14'20		direct	3665 Jun 08 12:59	13°♄32'35	
	3659 Oct 16 01:29	30°♄			3665 Oct 08 08:36	0°♄	
opposition	3659 Oct 21 21:10	29°♄13'24	-1°-31'-21	evening set	3665 Oct 12 22:30	0°♄58'29	
min. Earth dist.	3659 Oct 21 06:36	29°♄18'17	3.93581 AU				
direct	3659 Dec 19 00:48	24°♄19'37		conjunction	3665 Oct 25 23:09	3°♄46'29	1°01'12
	3660 Feb 17 05:11	0°♄		minimum elong	3665 Oct 25 23:09	3°♄46'29	1°01'12
evening set	3660 Apr 22 22:32	14°♄11'51		max. Earth dist.	3665 Oct 24 21:36	3°♄32'43	6.47016 AU
	3660 Apr 26 06:17	15°♄		morning rise	3665 Nov 07 21:13	6°♄33'12	
					3665 Dec 19 15:50	15°♄	
conjunction	3660 May 06 07:26	17°♄26'05	0°-56'-55	retrograde	3666 Mar 07 23:17	23°♄13'27	
minimum elong	3660 May 06 07:27	17°♄26'06	0°56'57	opposition	3666 May 07 16:12	18°♄20'15	1°23'22
max. Earth dist.	3660 May 07 21:12	17°♄48'59	5.93636 AU	min. Earth dist.	3666 May 08 17:39	18°♄12'06	4.46674 AU
morning rise	3660 May 19 19:25	20°♄41'54			3666 Jun 05 05:38	15°♄	
	3660 Jun 29 10:19	0°♄		direct	3666 Jul 09 10:32	13°♄18'14	
retrograde	3660 Sep 29 01:16	11°♄23'36			3666 Aug 12 19:05	15°♄	
min. Earth dist.	3660 Nov 26 06:09	6°♄30'40	3.96344 AU		3666 Nov 09 00:05	0°♄	
opposition	3660 Nov 27 14:59	6°♄19'31	-1°-10'-59	evening set	3666 Nov 12 10:39	0°♄44'28	
direct	3661 Jan 24 10:38	1°♄24'03		max. Earth dist.	3666 Nov 23 09:20	3°♄07'02	6.44218 AU
evening set	3661 May 30 17:26	21°♄01'36					
				conjunction	3666 Nov 25 06:22	3°♄31'34	0°49'52
conjunction	3661 Jun 13 09:09	24°♄15'32	0°-33'-14	minimum elong	3666 Nov 25 06:24	3°♄31'35	0°49'52
minimum elong	3661 Jun 13 09:11	24°♄15'33	0°33'15	morning rise	3666 Dec 07 23:43	6°♄17'40	
max. Earth dist.	3661 Jun 15 17:13	24°♄48'45	6.01105 AU	retrograde	3667 Apr 07 18:58	23°♄13'16	
morning rise	3661 Jun 27 03:12	27°♄30'23		opposition	3667 Jun 07 17:03	18°♄21'13	0°56'38
	3661 Jul 07 20:17	0°♄		min. Earth dist.	3667 Jun 09 04:44	18°♄09'50	4.40088 AU
retrograde	3661 Nov 04 01:00	17°♄23'59		direct	3667 Aug 09 07:52	13°♄20'33	
min. Earth dist.	3662 Jan 01 02:18	12°♄31'28	4.07596 AU		3667 Dec 08 01:44	0°♄	
opposition	3662 Jan 02 14:31	12°♄19'07	0°-23'-44	evening set	3667 Dec 13 01:16	1°♄05'52	

max. Earth dist.	3667 Dec 23 14:11	3°♌26'35	6.34300 AU	max. Earth dist.	3673 Jun 21 00:06	29°♊56'31	6.03061 AU
					3673 Jun 21 06:00	0°♌	
conjunction	3667 Dec 25 18:23	3°♌55'45	0°24'41	morning rise	3673 Jul 02 08:25	2°♌36'25	
minimum elong	3667 Dec 25 18:24	3°♌55'46	0°24'42	retrograde	3673 Nov 08 19:30	22°♌19'36	
morning rise	3668 Jan 07 09:55	6°♌45'09		min. Earth dist.	3674 Jan 05 21:22	17°♌27'01	4.09809 AU
retrograde	3668 May 09 12:20	24°♌24'23		opposition	3674 Jan 07 08:58	17°♌14'54	0°-16'-17
opposition	3668 Jul 09 09:04	19°♌32'00	0°12'39	direct	3674 Mar 07 01:00	12°♌16'06	
min. Earth dist.	3668 Jul 10 22:45	19°♌19'58	4.27368 AU	asc. node	3674 May 07 23:11	17°♌57'58	
direct	3668 Sep 09 05:42	14°♌33'26			3674 Jul 06 09:22	0°♏	
desc. node	3668 Oct 17 03:09	16°♌42'02		evening set	3674 Jul 11 13:07	1°♏09'49	
	3668 Dec 30 22:04	0°♏					
evening set	3669 Jan 12 17:11	2°♏53'43		conjunction	3674 Jul 25 06:29	4°♏17'03	0°07'06
max. Earth dist.	3669 Jan 23 11:18	5°♏22'17	6.19794 AU	minimum elong	3674 Jul 25 06:28	4°♏17'02	0°07'05
				behind sun begin	3674 Jul 24 22:46	4°♏12'41	
conjunction	3669 Jan 25 10:10	5°♏49'21	0°-8'-48	behind sun end	3674 Jul 25 14:09	4°♏21'23	
minimum elong	3669 Jan 25 10:09	5°♏49'21	0°08'48	max. Earth dist.	3674 Jul 27 08:00	4°♏45'13	6.17363 AU
behind sun begin	3669 Jan 25 03:14	5°♏45'22		morning rise	3674 Aug 08 00:13	7°♏24'05	
behind sun end	3669 Jan 25 17:04	5°♏53'20			3674 Sep 12 02:48	15°♏	
morning rise	3669 Feb 07 03:08	8°♏45'14		retrograde	3674 Dec 11 21:42	25°♏56'03	
	3669 Mar 07 02:51	15°♏		opposition	3675 Feb 09 16:48	20°♏53'35	0°35'23
retrograde	3669 Jun 13 14:15	27°♏30'20		min. Earth dist.	3675 Feb 08 15:06	21°♏02'14	4.24953 AU
opposition	3669 Aug 13 05:34	22°♏35'58	0°-38'-20	direct	3675 Apr 10 15:06	15°♏52'22	
min. Earth dist.	3669 Aug 14 07:23	22°♏27'37	4.12064 AU		3675 Jul 27 07:58	0°♐	
direct	3669 Oct 12 17:45	17°♏39'52		evening set	3675 Aug 15 06:15	4°♐05'00	
	3670 Jan 16 20:39	0°♐					
evening set	3670 Feb 15 05:25	6°♐43'01		conjunction	3675 Aug 28 19:37	7°♐04'05	0°38'49
max. Earth dist.	3670 Feb 27 02:19	9°♐32'21	6.05045 AU	minimum elong	3675 Aug 28 19:35	7°♐04'04	0°38'49
				max. Earth dist.	3675 Aug 29 23:11	7°♐19'17	6.32151 AU
conjunction	3670 Feb 28 01:24	9°♐46'07	0°-40'-54	morning rise	3675 Sep 11 07:22	10°♐02'10	
minimum elong	3670 Feb 28 01:23	9°♐46'06	0°40'55	retrograde	3676 Jan 12 01:19	27°♐32'13	
morning rise	3670 Mar 12 22:37	12°♐50'11		opposition	3676 Mar 12 03:47	22°♐33'22	1°12'59
	3670 Jun 08 11:00	0°♑		min. Earth dist.	3676 Mar 11 18:57	22°♐36'17	4.38226 AU
retrograde	3670 Jul 20 23:57	2°♑45'51		direct	3676 May 12 09:25	17°♐30'57	
	3670 Sep 01 20:54	30°♑			3676 Aug 22 03:43	0°♒	
opposition	3670 Sep 19 04:29	27°♑48'14	-1°-19'-9	evening set	3676 Sep 15 23:51	5°♒12'09	
min. Earth dist.	3670 Sep 19 10:07	27°♑46'23	3.99214 AU				
direct	3670 Nov 17 06:39	22°♑54'07		conjunction	3676 Sep 29 06:20	8°♒04'04	0°57'50
	3671 Jan 24 23:46	0°♑		minimum elong	3676 Sep 29 06:18	8°♒04'04	0°57'50
evening set	3671 Mar 22 21:38	12°♑33'00		max. Earth dist.	3676 Sep 29 03:32	8°♒02'34	6.42895 AU
				morning rise	3676 Oct 12 10:31	10°♒54'43	
conjunction	3671 Apr 04 23:33	15°♑43'11	0°-59'-21	retrograde	3677 Feb 10 03:40	27°♒46'18	
minimum elong	3671 Apr 04 23:32	15°♑43'11	0°59'22	opposition	3677 Apr 11 13:57	22°♒50'55	1°28'43
max. Earth dist.	3671 Apr 05 08:46	15°♑48'47	5.95267 AU	min. Earth dist.	3677 Apr 12 00:39	22°♒47'26	4.45859 AU
morning rise	3671 Apr 18 04:13	18°♑54'57		direct	3677 Jun 12 20:36	17°♒48'19	
	3671 Jun 06 06:59	0°♓			3677 Sep 22 01:27	0°♓	
retrograde	3671 Aug 28 10:19	9°♓36'11		evening set	3677 Oct 17 05:01	5°♓14'07	
min. Earth dist.	3671 Oct 26 10:55	4°♓40'59	3.93697 AU	max. Earth dist.	3677 Oct 29 01:21	7°♓46'58	6.46829 AU
opposition	3671 Oct 27 05:39	4°♓34'41	-1°-30'-38				
	3671 Dec 10 15:57	30°♓		conjunction	3677 Oct 30 05:05	8°♓01'55	1°00'32
direct	3671 Dec 24 06:18	29°♓40'46		minimum elong	3677 Oct 30 05:06	8°♓01'55	1°00'31
	3672 Jan 06 21:53	0°♓		morning rise	3677 Nov 12 02:17	10°♓48'26	
	3672 Apr 09 02:53	15°♓			3677 Dec 02 00:44	15°♓	
evening set	3672 Apr 28 05:16	19°♓31'17		retrograde	3678 Mar 12 04:15	27°♓29'53	
				opposition	3678 May 11 22:38	22°♓36'56	1°20'51
conjunction	3672 May 11 15:11	22°♓45'36	0°-54'-47	min. Earth dist.	3678 May 13 00:54	22°♓28'31	4.45973 AU
minimum elong	3672 May 11 15:12	22°♓45'37	0°54'47	direct	3678 Jul 13 15:53	17°♓35'07	
max. Earth dist.	3672 May 13 08:21	23°♓10'29	5.94491 AU		3678 Oct 23 17:03	0°♔	
morning rise	3672 May 25 04:08	26°♓01'25		evening set	3678 Nov 16 16:56	5°♔03'39	
	3672 Jun 11 00:00	0°♕		max. Earth dist.	3678 Nov 27 13:47	7°♔25'40	6.43058 AU
retrograde	3672 Oct 04 04:00	16°♕37'29					
min. Earth dist.	3672 Dec 01 08:33	11°♕44'29	3.97820 AU	conjunction	3678 Nov 29 12:07	7°♔51'00	0°47'02
opposition	3672 Dec 02 18:06	11°♕33'03	-1°-5'-30	minimum elong	3678 Nov 29 12:08	7°♔51'01	0°47'03
direct	3673 Jan 29 16:20	6°♕37'10		morning rise	3678 Dec 12 05:06	10°♔37'26	
evening set	3673 Jun 04 21:45	26°♕09'06		retrograde	3679 Apr 12 07:19	27°♔37'59	
				opposition	3679 Jun 12 04:32	22°♔46'00	0°51'16
conjunction	3673 Jun 18 14:10	29°♕22'23	0°-28'-41	min. Earth dist.	3679 Jun 13 17:38	22°♔34'11	4.38530 AU
minimum elong	3673 Jun 18 14:12	29°♕22'24	0°28'42	direct	3679 Aug 13 18:19	17°♔45'38	

	3679 Nov 21 12:44	0°♄		conjunction	3685 Jun 23 18:19	4°♄27'23	0°-23'-57
evening set	3679 Dec 17 10:05	5°♄35'10		minimum elong	3685 Jun 23 18:20	4°♄27'24	0°23'58
max. Earth dist.	3679 Dec 27 22:08	7°♄56'03	6.32463 AU	max. Earth dist.	3685 Jun 26 02:49	5°♄00'33	6.04688 AU
				morning rise	3685 Jul 07 13:03	7°♄40'48	
conjunction	3679 Dec 30 03:01	8°♄25'43	0°20'17	retrograde	3685 Nov 13 12:35	27°♄15'11	
minimum elong	3679 Dec 30 03:02	8°♄25'44	0°20'17	min. Earth dist.	3686 Jan 10 16:08	22°♄22'33	4.11656 AU
morning rise	3680 Jan 11 18:39	11°♄15'52		opposition	3686 Jan 12 03:06	22°♄10'38	0°-8'-45
retrograde	3680 May 14 06:18	29°♄03'06		direct	3686 Mar 11 22:16	17°♄11'26	
opposition	3680 Jul 14 03:06	24°♄10'28	0°05'33	asc. node	3686 Mar 18 01:54	17°♄15'16	
min. Earth dist.	3680 Jul 15 14:45	23°♄59'04	4.25367 AU		3686 Jun 19 04:26	0°♂	
desc. node	3680 Aug 26 14:44	19°♄43'01		evening set	3686 Jul 16 11:46	6°♂00'04	
direct	3680 Sep 13 19:05	19°♄12'14					
	3680 Dec 13 13:59	0°♁		conjunction	3686 Jul 30 04:59	9°♂06'21	0°12'01
evening set	3681 Jan 17 07:03	7°♁37'56		minimum elong	3686 Jul 30 04:58	9°♂06'20	0°12'01
max. Earth dist.	3681 Jan 28 05:12	10°♁09'29	6.17794 AU	behind sun begin	3686 Jul 29 23:23	9°♂03'11	
				behind sun end	3686 Jul 30 10:33	9°♂09'29	
conjunction	3681 Jan 30 00:18	10°♁34'29	0°-13'-39	max. Earth dist.	3686 Aug 01 04:37	9°♂33'21	6.19285 AU
minimum elong	3681 Jan 30 00:17	10°♁34'29	0°13'39	morning rise	3686 Aug 12 22:02	12°♂12'15	
behind sun begin	3681 Jan 29 19:48	10°♁31'53			3686 Aug 25 11:56	15°♂	
behind sun end	3681 Jan 30 04:47	10°♁37'04			3686 Nov 27 05:49	0°♁	
morning rise	3681 Feb 11 17:32	13°♁31'21		retrograde	3686 Dec 16 09:27	0°♁35'32	
	3681 Feb 18 03:54	15°♁			3687 Jan 04 08:22	30°♁♂	
	3681 May 09 15:35	0°♂		min. Earth dist.	3687 Feb 13 05:12	25°♂41'24	4.26775 AU
retrograde	3681 Jun 18 17:17	2°♂25'50		opposition	3687 Feb 14 04:34	25°♂33'34	0°41'46
	3681 Jul 29 03:13	30°♁♁		direct	3687 Apr 15 07:07	20°♂32'09	
opposition	3681 Aug 18 06:47	27°♁31'06	0°-45'-7		3687 Jul 09 04:02	0°♁	
min. Earth dist.	3681 Aug 19 06:58	27°♁23'16	4.10206 AU	evening set	3687 Aug 19 23:04	8°♁40'31	
direct	3681 Oct 17 15:01	22°♁35'21					
	3681 Dec 28 05:27	0°♂		conjunction	3687 Sep 02 11:30	11°♁38'35	0°42'23
evening set	3682 Feb 20 01:42	11°♂43'31		minimum elong	3687 Sep 02 11:28	11°♁38'34	0°42'23
				max. Earth dist.	3687 Sep 03 10:25	11°♁51'11	6.33729 AU
conjunction	3682 Mar 04 22:13	14°♂47'34	0°-44'-35	morning rise	3687 Sep 15 22:24	14°♁35'39	
minimum elong	3682 Mar 04 22:11	14°♂47'33	0°44'36		3687 Dec 11 08:51	0°♂	
max. Earth dist.	3682 Mar 04 01:59	14°♂35'28	6.03475 AU	retrograde	3688 Jan 16 07:50	1°♂59'34	
morning rise	3682 Mar 17 20:23	17°♂52'43			3688 Feb 21 04:08	30°♁♁	
	3682 May 12 05:04	0°♂		opposition	3688 Mar 16 11:27	27°♁01'12	1°16'37
retrograde	3682 Jul 26 06:16	7°♂56'08		min. Earth dist.	3688 Mar 16 05:07	27°♁03'18	4.39487 AU
opposition	3682 Sep 24 10:26	2°♂58'01	-1°-22'-50	direct	3688 May 16 20:42	21°♁58'44	
min. Earth dist.	3682 Sep 24 11:51	2°♂57'33	3.98103 AU		3688 Aug 03 10:57	0°♂	
	3682 Oct 18 14:49	30°♁♂		evening set	3688 Sep 20 11:19	9°♂37'25	
direct	3682 Nov 22 07:36	28°♂04'03					
	3682 Dec 26 15:33	0°♂		conjunction	3688 Oct 03 16:59	12°♂28'39	0°59'13
evening set	3683 Mar 27 23:55	17°♂45'42		minimum elong	3688 Oct 03 16:58	12°♂28'38	0°59'14
				max. Earth dist.	3688 Oct 03 12:06	12°♂26'01	6.43774 AU
conjunction	3683 Apr 10 02:50	20°♂56'36	-1°00'-10	morning rise	3688 Oct 16 19:59	15°♂18'32	
minimum elong	3683 Apr 10 02:50	20°♂56'36	1°00'12		3689 Jan 07 22:34	0°♂	
max. Earth dist.	3683 Apr 10 16:50	21°♂05'06	5.94711 AU	retrograde	3689 Feb 14 08:35	2°♂07'15	
morning rise	3683 Apr 23 08:32	24°♂09'06			3689 Mar 23 20:10	30°♁♂	
	3683 May 18 04:34	0°♂		opposition	3689 Apr 15 20:34	27°♂12'18	1°29'01
retrograde	3683 Sep 02 17:35	14°♂52'34		min. Earth dist.	3689 Apr 16 08:48	27°♂08'20	4.46342 AU
opposition	3683 Nov 01 11:47	9°♂50'35	-1°-29'-13	direct	3689 Jun 17 05:11	22°♂09'53	
min. Earth dist.	3683 Oct 31 15:10	9°♂57'31	3.93764 AU		3689 Sep 03 10:59	0°♂	
direct	3683 Dec 29 11:30	4°♂56'29		evening set	3689 Oct 21 13:07	9°♂34'46	
	3684 Mar 21 13:41	15°♂		max. Earth dist.	3689 Nov 02 04:57	12°♂05'21	6.46899 AU
evening set	3684 May 03 10:31	24°♂46'02					
				conjunction	3689 Nov 03 12:11	12°♂22'12	0°59'34
conjunction	3684 May 16 21:36	28°♂00'33	0°-52'-14	minimum elong	3689 Nov 03 12:11	12°♂22'12	0°59'34
minimum elong	3684 May 16 21:38	28°♂00'34	0°52'15		3689 Nov 15 17:03	15°♂	
max. Earth dist.	3684 May 18 19:02	28°♂27'57	5.95175 AU	morning rise	3689 Nov 16 08:45	15°♂08'25	
	3684 May 25 03:56	0°♂			3690 Feb 09 14:43	0°♂	
morning rise	3684 May 30 11:28	1°♂16'28		retrograde	3690 Mar 16 12:12	1°♂50'11	
retrograde	3684 Oct 09 06:33	21°♂47'38			3690 Apr 20 11:47	30°♁♂	
min. Earth dist.	3684 Dec 06 08:54	16°♂54'48	3.99046 AU	opposition	3690 May 16 06:42	26°♂57'27	1°17'55
opposition	3684 Dec 07 19:21	16°♂43'05	0°-59'-37	min. Earth dist.	3690 May 17 11:07	26°♂48'21	4.45649 AU
direct	3685 Feb 03 18:33	11°♂46'51		direct	3690 Jul 18 01:32	21°♂55'48	
	3685 Jun 04 17:16	0°♂			3690 Oct 05 09:56	0°♂	
evening set	3685 Jun 10 01:34	1°♂14'39		evening set	3690 Nov 20 23:39	9°♂25'01	

max. Earth dist.	3690 Dec 01 19:34	11°♏46'48	6.42374 AU	evening set	3696 May 08 11:56	29°♏49'54	
					3696 May 09 04:47	0°♐	
conjunction	3690 Dec 03 18:25	12°♏12'27	0°44'01				
minimum elong	3690 Dec 03 18:26	12°♏12'28	0°44'01	conjunction	3696 May 21 23:56	3°♐04'42	0°-49'-25
morning rise	3690 Dec 16 10:52	14°♏58'58		minimum elong	3696 May 21 23:58	3°♐04'44	0°49'26
	3691 Mar 10 18:47	0°♑		max. Earth dist.	3696 May 23 22:07	3°♐32'30	5.95572 AU
retrograde	3691 Apr 16 16:40	2°♑02'45		morning rise	3696 Jun 04 14:59	6°♐20'56	
	3691 May 23 22:20	30°♒♏		retrograde	3696 Oct 14 04:14	26°♐48'36	
opposition	3691 Jun 16 15:40	27°♏10'43	0°45'44	min. Earth dist.	3696 Dec 11 05:35	21°♐55'59	3.99883 AU
min. Earth dist.	3691 Jun 18 03:58	26°♏59'09	4.37530 AU	opposition	3696 Dec 12 17:01	21°♐43'54	0°-53'-34
direct	3691 Aug 18 03:09	22°♏10'37		direct	3697 Feb 08 17:12	16°♐47'16	
	3691 Nov 03 03:12	0°♑			3697 May 18 18:15	0°♑	
evening set	3691 Dec 21 17:51	10°♑02'21		evening set	3697 Jun 15 02:44	6°♑12'42	
max. Earth dist.	3692 Jan 01 06:49	12°♑24'10	6.31223 AU				
				conjunction	3697 Jun 28 20:09	9°♑25'08	0°-19'-13
conjunction	3692 Jan 03 10:31	12°♑53'16	0°15'54	minimum elong	3697 Jun 28 20:11	9°♑25'09	0°19'14
minimum elong	3692 Jan 03 10:31	12°♑53'17	0°15'54	max. Earth dist.	3697 Jul 01 05:17	9°♑58'34	6.05915 AU
behind sun begin	3692 Jan 03 08:51	12°♑52'21		morning rise	3697 Jul 12 15:01	12°♑38'04	
behind sun end	3692 Jan 03 12:11	12°♑54'13			3697 Oct 12 21:50	0°♒	
morning rise	3692 Jan 16 02:04	15°♑43'53		retrograde	3697 Nov 18 06:00	2°♒05'15	
	3692 Mar 30 06:23	0°♒			3697 Dec 24 06:55	30°♒♑	
retrograde	3692 May 18 23:07	3°♒37'05		min. Earth dist.	3698 Jan 15 09:56	27°♑12'20	4.13125 AU
desc. node	3692 Jul 08 07:16	0°♒03'44		opposition	3698 Jan 16 19:25	27°♑00'57	0°-1'-25
	3692 Jul 08 19:26	30°♒♑		asc. node	3698 Jan 27 11:07	25°♑35'22	
opposition	3692 Jul 18 19:18	28°♑44'14	0°-1'-20	direct	3698 Mar 16 18:14	22°♑01'26	
min. Earth dist.	3692 Jul 20 07:01	28°♑32'48	4.23938 AU		3698 May 31 00:16	0°♒	
direct	3692 Sep 18 09:22	23°♑46'17		evening set	3698 Jul 21 09:24	10°♒46'19	
	3692 Nov 23 19:28	0°♒					
evening set	3693 Jan 21 18:02	12°♒15'20		conjunction	3698 Aug 04 02:16	13°♒51'46	0°16'44
max. Earth dist.	3693 Feb 01 17:26	14°♒48'07	6.16292 AU	minimum elong	3698 Aug 04 02:15	13°♒51'45	0°16'44
	3693 Feb 02 13:51	15°♒		max. Earth dist.	3698 Aug 05 23:50	14°♒17'29	6.20882 AU
					3698 Aug 09 03:11	15°♒	
conjunction	3693 Feb 03 11:25	15°♒12'33	0°-18'-13	morning rise	3698 Aug 17 18:53	16°♒56'45	
minimum elong	3693 Feb 03 11:24	15°♒12'32	0°18'14		3698 Oct 22 04:25	0°♓	
morning rise	3693 Feb 16 05:05	18°♒10'13		retrograde	3698 Dec 20 18:48	5°♓12'22	
	3693 Apr 12 22:18	0°♓		opposition	3699 Feb 18 15:36	0°♓10'48	0°47'44
retrograde	3693 Jun 23 13:43	7°♓12'18		min. Earth dist.	3699 Feb 17 17:14	0°♓18'18	4.28367 AU
opposition	3693 Aug 23 03:58	2°♓17'08	0°-51'-17		3699 Feb 19 23:50	30°♒♒	
min. Earth dist.	3693 Aug 24 01:08	2°♓10'16	4.08752 AU	direct	3699 Apr 19 21:17	25°♒09'11	
	3693 Sep 10 11:37	30°♒♒			3699 Jun 17 05:46	0°♓	
direct	3693 Oct 22 07:20	27°♒21'38		evening set	3699 Aug 24 15:02	13°♓13'46	
	3693 Dec 02 09:28	0°♓					
evening set	3694 Feb 24 18:05	16°♓33'36		conjunction	3699 Sep 07 02:41	16°♓10'54	0°45'37
				minimum elong	3699 Sep 07 02:39	16°♓10'53	0°45'37
conjunction	3694 Mar 09 15:12	19°♓38'27	0°-47'-46	max. Earth dist.	3699 Sep 07 22:44	16°♓21'54	6.35202 AU
minimum elong	3694 Mar 09 15:10	19°♓38'26	0°47'46	morning rise	3699 Sep 20 12:30	16°♓06'54	
max. Earth dist.	3694 Mar 08 22:46	19°♓28'36	6.02197 AU		3699 Nov 14 02:13	0°♔	
morning rise	3694 Mar 22 14:05	22°♓44'30		retrograde	3700 Jan 20 14:44	6°♔24'58	
	3694 Apr 23 02:11	0°♕		opposition	3700 Mar 21 19:01	1°♔27'05	1°19'42
retrograde	3694 Jul 31 09:09	12°♕54'36		min. Earth dist.	3700 Mar 21 15:10	1°♔28'21	4.40720 AU
opposition	3694 Sep 29 11:19	7°♕55'57	-1°-25'-44		3700 Apr 01 23:50	30°♒♓	
min. Earth dist.	3694 Sep 29 11:04	7°♕56'02	3.97125 AU	direct	3700 May 22 08:46	26°♓24'35	
direct	3694 Nov 27 05:59	3°♕02'01			3700 Jul 11 20:07	0°♔	
evening set	3695 Apr 01 21:47	22°♕46'18		evening set	3700 Sep 25 21:55	14°♔00'23	
conjunction	3695 Apr 15 01:50	25°♕57'59	-1°00'-31	conjunction	3700 Oct 09 02:32	16°♔50'52	1°00'14
minimum elong	3695 Apr 15 01:50	25°♕57'59	1°00'32	minimum elong	3700 Oct 09 02:31	16°♔50'52	1°00'14
max. Earth dist.	3695 Apr 15 19:55	26°♕08'58	5.94133 AU	max. Earth dist.	3700 Oct 08 17:33	16°♔46'01	6.44644 AU
morning rise	3695 Apr 28 08:39	29°♕11'16		morning rise	3700 Oct 22 04:37	19°♔40'02	
	3695 May 01 17:37	0°♕			3700 Dec 13 13:40	0°♕	
	3695 Jul 12 09:38	15°♕		retrograde	3701 Feb 19 13:15	6°♕25'53	
retrograde	3695 Sep 07 20:25	19°♕56'55		opposition	3701 Apr 21 02:38	1°♕31'14	1°28'47
	3695 Nov 05 20:49	15°♒♕		min. Earth dist.	3701 Apr 21 17:08	1°♕26'32	4.46787 AU
opposition	3695 Nov 06 12:56	14°♕54'34	-1°-27'-12		3701 May 03 01:31	30°♒♔	
min. Earth dist.	3695 Nov 05 14:22	15°♕02'10	3.93677 AU	direct	3701 Jun 22 13:38	26°♔28'49	
direct	3696 Jan 03 10:25	10°♕00'19			3701 Aug 12 00:11	0°♕	
	3696 Feb 28 14:28	15°♕		evening set	3701 Oct 26 19:57	13°♕52'48	

	3701 Nov 01 01:08	15°♍		conjunction	3707 Apr 21 07:40	1°♏16'56	-1°00'-24
max. Earth dist.	3701 Nov 07 09:53	16°♍22'24	6.46857 AU	minimum elong	3707 Apr 21 07:41	1°♏16'56	1°00'25
				max. Earth dist.	3707 Apr 22 05:11	1°♏30'01	5.93541 AU
conjunction	3701 Nov 08 18:24	16°♍39'58	0°58'16	morning rise	3707 May 04 15:51	4°♏31'05	
minimum elong	3701 Nov 08 18:25	16°♍39'59	0°58'16		3707 Jun 19 17:46	15°♏	
morning rise	3701 Nov 21 14:03	19°♍25'54		retrograde	3707 Sep 14 04:10	25°♏18'26	
	3702 Jan 14 07:39	0°♏		opposition	3707 Nov 12 20:18	20°♏15'37	-1°-24'-21
retrograde	3702 Mar 21 17:49	6°♏08'29		min. Earth dist.	3707 Nov 11 18:40	20°♏24'17	3.93806 AU
opposition	3702 May 21 14:04	1°♏15'56	1°14'31	direct	3708 Jan 09 16:48	15°♏21'08	
min. Earth dist.	3702 May 22 19:31	1°♏06'32	4.45099 AU		3708 Apr 22 19:37	0°♐	
	3702 May 31 14:27	30°♐		evening set	3708 May 14 19:45	5°♐09'37	
direct	3702 Jul 23 08:48	26°♐14'30					
	3702 Sep 13 12:22	0°♏		conjunction	3708 May 28 08:56	8°♐24'32	0°-46'-2
evening set	3702 Nov 26 05:39	13°♏45'14		minimum elong	3708 May 28 08:58	8°♐24'33	0°46'04
max. Earth dist.	3702 Dec 06 22:29	16°♏05'47	6.41327 AU	max. Earth dist.	3708 May 30 11:28	8°♐54'52	5.96437 AU
				morning rise	3708 Jun 11 00:43	11°♐40'42	
conjunction	3702 Dec 08 23:48	16°♏32'52	0°40'42		3708 Sep 14 12:59	0°♑	
minimum elong	3702 Dec 08 23:50	16°♏32'53	0°40'41	retrograde	3708 Oct 20 07:38	2°♑02'11	
morning rise	3702 Dec 21 16:04	19°♏19'42			3708 Nov 24 19:28	30°♐	
	3703 Feb 12 21:17	0°♑		min. Earth dist.	3708 Dec 17 07:37	27°♐09'29	4.01389 AU
retrograde	3703 Apr 22 05:24	6°♑28'25		opposition	3708 Dec 18 19:13	26°♐57'20	0°-46'-48
opposition	3703 Jun 22 03:37	1°♑36'21	0°39'49	direct	3709 Feb 14 21:55	22°♐00'19	
min. Earth dist.	3703 Jun 23 17:21	1°♑24'20	4.36016 AU		3709 Apr 29 19:10	0°♑	
	3703 Jul 04 23:21	30°♐		evening set	3709 Jun 21 07:56	11°♑20'30	
direct	3703 Aug 23 14:07	26°♏36'29					
	3703 Oct 11 07:58	0°♑		conjunction	3709 Jul 05 01:34	14°♑32'07	0°-14'-10
evening set	3703 Dec 27 02:14	14°♑32'18		minimum elong	3709 Jul 05 01:35	14°♑32'07	0°14'12
max. Earth dist.	3704 Jan 06 15:26	16°♑54'51	6.29357 AU	behind sun begin	3709 Jul 04 21:48	14°♑29'55	
				behind sun end	3709 Jul 05 05:23	14°♑34'19	
conjunction	3704 Jan 08 18:55	17°♑23'57	0°11'18	max. Earth dist.	3709 Jul 07 11:11	15°♑05'38	6.07926 AU
minimum elong	3704 Jan 08 18:56	17°♑23'57	0°11'18	morning rise	3709 Jul 18 20:33	17°♑44'06	
behind sun begin	3704 Jan 08 13:02	17°♑20'38			3709 Sep 15 01:37	0°♒	
behind sun end	3704 Jan 09 00:50	17°♑27'16		retrograde	3709 Nov 23 21:53	7°♒00'37	
morning rise	3704 Jan 21 10:31	20°♑15'22		asc. node	3709 Dec 08 05:24	6°♒40'11	
	3704 Mar 07 16:56	0°♒		min. Earth dist.	3710 Jan 21 03:48	2°♒07'57	4.15438 AU
desc. node	3704 May 19 07:10	8°♒14'19		opposition	3710 Jan 22 13:26	1°♒56'32	0°06'04
retrograde	3704 May 24 16:52	8°♒17'04			3710 Feb 06 07:11	30°♐	
opposition	3704 Jul 24 13:42	3°♒24'00	0°-8'-29	direct	3710 Mar 22 15:37	26°♑56'38	
min. Earth dist.	3704 Jul 25 23:33	3°♒13'09	4.21841 AU		3710 May 06 06:06	0°♒	
	3704 Aug 22 20:15	30°♐			3710 Jul 24 17:34	15°♒	
direct	3704 Sep 23 22:41	28°♑26'24		evening set	3710 Jul 27 07:35	15°♒34'34	
	3704 Oct 25 21:00	0°♒					
	3705 Jan 18 13:14	15°♒		conjunction	3710 Aug 09 23:50	18°♒38'41	0°21'24
evening set	3705 Jan 27 08:18	17°♒01'26		minimum elong	3710 Aug 09 23:49	18°♒38'40	0°21'24
max. Earth dist.	3705 Feb 07 10:36	19°♒36'39	6.14139 AU	max. Earth dist.	3710 Aug 11 18:07	19°♒02'26	6.23301 AU
				morning rise	3710 Aug 23 15:37	21°♒42'14	
conjunction	3705 Feb 09 01:58	19°♒59'40	0°-22'-53		3710 Oct 01 19:02	0°♓	
minimum elong	3705 Feb 09 01:57	19°♒59'40	0°22'55	retrograde	3710 Dec 26 04:37	9°♓47'30	
morning rise	3705 Feb 21 20:10	22°♒58'28		min. Earth dist.	3711 Feb 23 06:43	4°♓52'50	4.30673 AU
	3705 Mar 25 02:12	0°♓		opposition	3711 Feb 24 02:04	4°♓46'22	0°53'22
retrograde	3705 Jun 29 18:30	12°♓10'57			3711 Apr 12 20:38	30°♐	
opposition	3705 Aug 29 06:01	7°♓15'22	0°-57'-29	direct	3711 Apr 25 14:14	29°♒44'30	
min. Earth dist.	3705 Aug 30 01:26	7°♓09'03	4.06710 AU		3711 May 08 08:48	0°♓	
direct	3705 Oct 28 05:27	2°♓20'07		evening set	3711 Aug 30 05:08	17°♓42'53	
evening set	3706 Mar 02 15:49	21°♓38'06					
				conjunction	3711 Sep 12 15:49	20°♓38'47	0°48'33
conjunction	3706 Mar 15 13:50	24°♓44'07	0°-50'-48	minimum elong	3711 Sep 12 15:47	20°♓38'46	0°48'33
minimum elong	3706 Mar 15 13:48	24°♓44'06	0°50'48	max. Earth dist.	3711 Sep 13 08:25	20°♓47'50	6.37204 AU
max. Earth dist.	3706 Mar 15 01:47	24°♓36'52	6.00461 AU	morning rise	3711 Sep 26 00:28	23°♓33'29	
morning rise	3706 Mar 28 13:43	27°♓51'23			3711 Oct 26 19:15	0°♑	
	3706 Apr 06 14:18	0°♑		retrograde	3712 Jan 25 16:56	10°♑44'16	
retrograde	3706 Aug 06 18:10	18°♑09'45		opposition	3712 Mar 26 00:02	5°♑46'49	1°22'17
opposition	3706 Oct 05 18:37	13°♑10'37	-1°-28'-10	min. Earth dist.	3712 Mar 25 22:15	5°♑47'24	4.42295 AU
min. Earth dist.	3706 Oct 05 14:52	13°♑11'52	3.95909 AU	direct	3712 May 26 17:08	0°♑44'11	
direct	3706 Dec 03 07:49	8°♑16'49		evening set	3712 Sep 30 05:26	18°♑16'15	
evening set	3707 Apr 08 02:37	28°♑04'28					
	3707 Apr 16 01:11	0°♒		conjunction	3712 Oct 13 09:05	21°♑05'56	1°00'54

minimum elong	3712 Oct 13 09:04	21°♄05'55	1°00'54	direct	3718 Dec 08 14:14	13°♃38'47	
max. Earth dist.	3712 Oct 12 20:22	20°♄59'05	6.45667 AU		3719 Mar 29 20:28	0°♄	
morning rise	3712 Oct 26 10:05	23°♄54'17		evening set	3719 Apr 13 10:37	3°♄29'14	
	3712 Nov 24 20:27	0°♄					
retrograde	3713 Feb 23 15:39	10°♄37'11		conjunction	3719 Apr 26 17:03	6°♄42'27	0°-59'-45
opposition	3713 Apr 25 06:09	5°♄42'54	1°28'06	minimum elong	3719 Apr 26 17:04	6°♄42'28	0°59'45
min. Earth dist.	3713 Apr 25 23:43	5°♄37'15	4.47194 AU	max. Earth dist.	3719 Apr 27 21:28	6°♄59'44	5.93257 AU
direct	3713 Jun 26 20:13	0°♄40'33		morning rise	3719 May 10 02:18	9°♄57'16	
	3713 Oct 16 12:13	15°♄			3719 May 31 10:10	15°♄	
evening set	3713 Oct 30 23:52	18°♄03'50			3719 Aug 29 08:10	0°♄	
max. Earth dist.	3713 Nov 11 08:11	20°♄30'38	6.46592 AU	retrograde	3719 Sep 19 15:18	0°♄44'18	
					3719 Oct 10 17:21	30°♄	
conjunction	3713 Nov 12 21:31	20°♄50'49	0°56'41	min. Earth dist.	3719 Nov 17 01:45	25°♄50'23	3.94381 AU
minimum elong	3713 Nov 12 21:32	20°♄50'49	0°56'41	opposition	3719 Nov 18 05:21	25°♄41'02	-1°-20'-41
morning rise	3713 Nov 25 16:40	23°♄36'38		direct	3720 Jan 15 01:58	20°♄46'18	
	3713 Dec 26 11:38	0°♄			3720 Apr 03 06:40	0°♄	
retrograde	3714 Mar 25 23:16	10°♄21'06		evening set	3720 May 20 05:05	10°♄31'48	
opposition	3714 May 25 19:41	5°♄28'40	1°10'49				
min. Earth dist.	3714 May 27 03:25	5°♄18'31	4.44177 AU	conjunction	3720 Jun 02 19:06	13°♄46'30	0°-42'-14
direct	3714 Jul 27 14:26	0°♄27'18		minimum elong	3720 Jun 02 19:08	13°♄46'31	0°42'15
evening set	3714 Nov 30 09:51	18°♄00'54		max. Earth dist.	3720 Jun 05 00:22	14°♄18'21	5.97775 AU
max. Earth dist.	3714 Dec 11 01:55	20°♄21'28	6.39811 AU	morning rise	3720 Jun 16 11:47	17°♄02'23	
					3720 Aug 15 11:10	0°♄	
conjunction	3714 Dec 13 03:52	20°♄49'00	0°37'13	retrograde	3720 Oct 25 07:59	7°♄15'27	
minimum elong	3714 Dec 13 03:53	20°♄49'01	0°37'13	min. Earth dist.	3720 Dec 22 07:57	2°♄23'12	4.03315 AU
morning rise	3714 Dec 25 19:45	23°♄36'20		opposition	3720 Dec 23 21:04	2°♄10'33	0°-39'-37
	3715 Jan 24 23:50	0°♄			3721 Jan 09 10:40	30°♄	
retrograde	3715 Apr 26 15:53	10°♄51'36		direct	3721 Feb 20 01:26	27°♄13'07	
opposition	3715 Jun 26 14:43	5°♄59'31	0°33'45		3721 Apr 02 17:10	0°♄	
min. Earth dist.	3715 Jun 28 04:42	5°♄47'25	4.33987 AU	evening set	3721 Jun 26 12:53	16°♄26'50	
direct	3715 Aug 27 21:47	0°♄59'55					
evening set	3715 Dec 31 10:51	19°♄01'44		conjunction	3721 Jul 10 06:34	19°♄37'25	0°-9'-1
max. Earth dist.	3716 Jan 10 23:43	21°♄24'55	6.26965 AU	minimum elong	3721 Jul 10 06:34	19°♄37'25	0°09'02
				behind sun begin	3721 Jul 09 23:29	19°♄33'20	
conjunction	3716 Jan 13 03:29	21°♄54'21	0°06'40	behind sun end	3721 Jul 10 13:40	19°♄41'30	
minimum elong	3716 Jan 13 03:28	21°♄54'21	0°06'41	max. Earth dist.	3721 Jul 12 14:18	20°♄09'41	6.10239 AU
behind sun begin	3716 Jan 12 20:01	21°♄50'08		morning rise	3721 Jul 24 01:24	22°♄48'14	
behind sun end	3716 Jan 13 10:56	21°♄58'33			3721 Aug 25 14:33	0°♄	
morning rise	3716 Jan 25 19:26	24°♄46'51		asc. node	3721 Oct 17 09:47	9°♄07'36	
	3716 Feb 18 10:21	0°♄		retrograde	3721 Nov 28 14:29	11°♄53'31	
desc. node	3716 Mar 29 19:32	7°♄41'31		min. Earth dist.	3722 Jan 25 23:11	7°♄00'21	4.17876 AU
retrograde	3716 May 29 15:05	12°♄59'10		opposition	3722 Jan 27 06:28	6°♄49'46	0°13'30
opposition	3716 Jul 29 09:34	8°♄05'51	0°-15'-37	direct	3722 Mar 27 14:42	1°♄49'31	
min. Earth dist.	3716 Jul 30 18:47	7°♄55'11	4.19236 AU		3722 Jul 07 14:48	15°♄	
direct	3716 Sep 28 14:38	3°♄08'33		evening set	3722 Aug 01 04:53	20°♄20'36	
	3717 Jan 01 12:18	15°♄					
evening set	3717 Feb 01 00:15	21°♄51'26		conjunction	3722 Aug 14 20:37	23°♄23'27	0°25'57
max. Earth dist.	3717 Feb 12 06:37	24°♄29'53	6.11558 AU	minimum elong	3722 Aug 14 20:36	23°♄23'26	0°25'56
				max. Earth dist.	3722 Aug 16 12:48	23°♄45'53	6.25670 AU
conjunction	3717 Feb 13 18:33	24°♄51'01	0°-27'-25	morning rise	3722 Aug 28 11:27	26°♄25'35	
minimum elong	3717 Feb 13 18:31	24°♄51'00	0°27'26		3722 Sep 13 20:17	0°♄	
morning rise	3717 Feb 26 13:23	27°♄51'13		retrograde	3722 Dec 30 12:14	14°♄21'12	
	3717 Mar 07 19:08	0°♄		opposition	3723 Feb 28 11:45	9°♄20'37	0°58'42
retrograde	3717 Jul 05 01:09	17°♄15'38		min. Earth dist.	3723 Feb 27 18:00	9°♄26'32	4.32794 AU
opposition	3717 Sep 03 10:43	12°♄19'40	-1°-3'-20	direct	3723 Apr 30 03:38	4°♄18'37	
min. Earth dist.	3717 Sep 04 02:48	12°♄14'26	4.04405 AU	evening set	3723 Sep 03 18:54	22°♄11'53	
direct	3717 Nov 02 03:35	7°♄24'47					
evening set	3718 Mar 07 17:04	26°♄49'47		conjunction	3723 Sep 17 04:30	25°♄06'39	0°51'14
				minimum elong	3723 Sep 17 04:28	25°♄06'38	0°51'15
conjunction	3718 Mar 20 15:51	29°♄57'00	0°-53'-27	max. Earth dist.	3723 Sep 17 15:40	25°♄12'44	6.38917 AU
minimum elong	3718 Mar 20 15:50	29°♄56'59	0°53'28	morning rise	3723 Sep 30 12:08	28°♄00'15	
max. Earth dist.	3718 Mar 20 08:04	29°♄52'18	5.98646 AU		3723 Oct 09 19:24	0°♄	
	3718 Mar 20 20:49	0°♄		retrograde	3724 Jan 29 22:44	15°♄05'11	
morning rise	3718 Apr 02 16:58	3°♄05'38		opposition	3724 Mar 30 05:56	10°♄08'16	1°24'30
retrograde	3718 Aug 12 05:02	23°♄32'14		min. Earth dist.	3724 Mar 30 07:56	10°♄07'37	4.43507 AU
opposition	3718 Oct 11 04:40	18°♄32'31	-1°-29'-53	direct	3724 May 31 03:49	5°♄05'37	
min. Earth dist.	3718 Oct 10 20:42	18°♄35'11	3.94799 AU	evening set	3724 Oct 04 13:37	22°♄35'11	

conjunction	3724 Oct 17 16:25	25°♂24'17	1°01'17	retrograde	3730 Aug 17 16:41	28°♀53'04	
minimum elong	3724 Oct 17 16:25	25°♂24'17	1°01'16	opposition	3730 Oct 16 13:57	23°♀52'47	-1°-30'-50
max. Earth dist.	3724 Oct 16 23:41	25°♂15'16	6.46281 AU	min. Earth dist.	3730 Oct 16 03:11	23°♀56'23	3.94385 AU
morning rise	3724 Oct 30 16:28	28°♂12'02		direct	3730 Dec 13 21:18	18°♀59'03	
	3724 Nov 08 03:33	0°♂			3731 Mar 11 12:08	0°♂	
retrograde	3725 Feb 27 19:14	14°♂53'28		evening set	3731 Apr 18 17:10	8°♂49'28	
opposition	3725 Apr 29 11:24	9°♂59'31	1°26'59				
min. Earth dist.	3725 Apr 30 06:50	9°♂53'15	4.47206 AU	conjunction	3731 May 02 00:32	12°♂03'00	0°-58'-38
direct	3725 Jul 01 02:06	4°♂57'14		minimum elong	3731 May 02 00:33	12°♂03'01	0°58'40
	3725 Sep 29 09:21	15°♂		max. Earth dist.	3731 May 03 08:54	12°♂22'38	5.93596 AU
evening set	3725 Nov 04 05:48	22°♂21'05			3731 May 14 04:53	15°♂	
max. Earth dist.	3725 Nov 15 11:40	24°♂46'47	6.46002 AU	morning rise	3731 May 15 11:02	15°♂18'09	
					3731 Jul 22 21:52	0°♂	
conjunction	3725 Nov 17 02:52	25°♂08'02	0°54'47	retrograde	3731 Sep 24 19:55	6°♂02'01	
minimum elong	3725 Nov 17 02:53	25°♂08'03	0°54'47	min. Earth dist.	3731 Nov 22 04:08	1°♂08'44	3.95456 AU
morning rise	3725 Nov 29 21:20	27°♂53'51		opposition	3731 Nov 23 10:47	0°♂58'20	-1°-16'-27
	3725 Dec 09 17:21	0°♂			3731 Nov 30 16:08	30°♂	
retrograde	3726 Mar 30 07:05	14°♂41'13		direct	3732 Jan 20 06:30	26°♂03'16	
opposition	3726 May 30 04:05	9°♂48'57	1°06'40		3732 Mar 09 20:54	0°♂	
min. Earth dist.	3726 May 31 13:43	9°♂38'14	4.43016 AU	evening set	3732 May 25 11:01	15°♂44'14	
direct	3726 Jul 31 22:29	4°♂47'48					
evening set	3726 Dec 04 16:51	22°♂24'48		conjunction	3732 Jun 08 01:44	18°♂58'27	0°-38'-14
max. Earth dist.	3726 Dec 15 05:59	24°♂44'23	6.38154 AU	minimum elong	3732 Jun 08 01:46	18°♂58'29	0°38'15
				max. Earth dist.	3732 Jun 10 07:51	19°♂30'41	5.99459 AU
conjunction	3726 Dec 17 10:26	25°♂13'25	0°33'26	morning rise	3732 Jun 21 18:57	22°♂13'45	
minimum elong	3726 Dec 17 10:28	25°♂13'26	0°33'26		3732 Jul 26 00:38	0°♂	
morning rise	3726 Dec 30 02:22	28°♂01'23		retrograde	3732 Oct 30 05:02	12°♂17'24	
	3727 Jan 08 03:16	0°♂		min. Earth dist.	3732 Dec 27 06:18	7°♂24'48	4.05392 AU
retrograde	3727 May 01 07:32	15°♂23'48		opposition	3732 Dec 28 18:30	7°♂12'27	0°-32'-26
opposition	3727 Jul 01 05:33	10°♂31'37	0°27'16	direct	3733 Feb 25 03:15	2°♂14'34	
min. Earth dist.	3727 Jul 02 19:37	10°♂19'28	4.31929 AU	evening set	3733 Jul 01 13:21	21°♂21'36	
direct	3727 Sep 01 09:43	5°♂32'16					
evening set	3728 Jan 04 22:14	23°♂39'54		conjunction	3733 Jul 15 07:11	24°♂31'10	0°-4'00
max. Earth dist.	3728 Jan 15 13:41	26°♂05'15	6.24688 AU	minimum elong	3733 Jul 15 07:10	24°♂31'10	0°04'01
				behind sun begin	3733 Jul 14 22:54	24°♂26'26	
conjunction	3728 Jan 17 15:06	26°♂33'28	0°01'49	behind sun end	3733 Jul 15 15:26	24°♂35'54	
minimum elong	3728 Jan 17 15:06	26°♂33'28	0°01'49	max. Earth dist.	3733 Jul 17 14:35	25°♂03'03	6.12526 AU
behind sun begin	3728 Jan 17 07:07	26°♂28'56		morning rise	3733 Jul 29 01:37	27°♂40'47	
behind sun end	3728 Jan 17 23:05	26°♂38'01			3733 Aug 08 07:47	0°♂	
morning rise	3728 Jan 30 07:10	29°♂27'00		asc. node	3733 Aug 27 22:45	4°♂16'40	
	3728 Feb 01 17:22	0°♂			3733 Nov 01 11:39	15°♂	
desc. node	3728 Feb 07 01:39	1°♂12'21		retrograde	3733 Dec 03 02:35	16°♂35'20	
	3728 Apr 21 04:01	15°♂			3734 Jan 03 10:57	15°♂	
retrograde	3728 Jun 03 15:02	17°♂49'27		opposition	3734 Jan 31 19:27	11°♂32'00	0°20'33
	3728 Jul 17 17:15	15°♂		min. Earth dist.	3734 Jan 30 13:21	11°♂42'10	4.20149 AU
opposition	3728 Aug 03 08:28	12°♂55'54	0°-22'-54	direct	3734 Apr 01 07:25	6°♂31'29	
min. Earth dist.	3728 Aug 04 15:44	12°♂45'51	4.16923 AU		3734 Jun 19 02:25	15°♂	
direct	3728 Oct 03 08:08	7°♂59'01		evening set	3734 Aug 05 22:16	24°♂56'31	
	3728 Dec 12 13:11	15°♂					
evening set	3729 Feb 05 19:02	26°♂48'30		conjunction	3734 Aug 19 13:10	27°♂58'09	0°30'10
max. Earth dist.	3729 Feb 17 04:22	29°♂29'31	6.09422 AU	minimum elong	3734 Aug 19 13:08	27°♂58'08	0°30'10
				max. Earth dist.	3734 Aug 20 23:54	28°♂17'29	6.27737 AU
conjunction	3729 Feb 18 13:37	29°♂49'09	0°-31'-54		3734 Aug 28 16:27	0°♂	
minimum elong	3729 Feb 18 13:35	29°♂49'08	0°31'54	morning rise	3734 Sep 02 03:15	0°♂59'03	
	3729 Feb 19 07:59	0°♂		retrograde	3735 Jan 03 18:53	18°♂46'34	
morning rise	3729 Mar 03 09:17	2°♂50'35		opposition	3735 Mar 04 18:45	13°♂46'31	1°03'32
retrograde	3729 Jul 10 08:22	22°♂25'07		min. Earth dist.	3735 Mar 04 04:32	13°♂51'15	4.34513 AU
opposition	3729 Sep 08 16:58	17°♂28'36	-1°-8'-50	direct	3735 May 04 15:42	8°♂44'21	
min. Earth dist.	3729 Sep 09 05:13	17°♂24'36	4.02668 AU	evening set	3735 Sep 08 05:54	26°♂33'53	
direct	3729 Nov 07 04:49	12°♂33'58					
	3730 Mar 04 03:56	0°♂		conjunction	3735 Sep 21 14:44	29°♂27'48	0°53'35
evening set	3730 Mar 12 19:02	2°♂03'36		minimum elong	3735 Sep 21 14:42	29°♂27'48	0°53'34
				max. Earth dist.	3735 Sep 21 22:48	29°♂32'11	6.40170 AU
conjunction	3730 Mar 25 18:53	5°♂11'47	0°-55'-45		3735 Sep 24 01:58	0°♂	
minimum elong	3730 Mar 25 18:51	5°♂11'46	0°55'46	morning rise	3735 Oct 04 21:10	2°♂20'28	
max. Earth dist.	3730 Mar 25 17:57	5°♂11'14	5.97491 AU	retrograde	3736 Feb 03 01:09	19°♂21'12	
morning rise	3730 Apr 07 20:51	8°♂21'21		opposition	3736 Apr 03 10:07	14°♂24'49	1°26'14

min. Earth dist.	3736 Apr 03 14:00	14°♄23'33	4.44246 AU	evening set	3742 Mar 17 19:44	7°♃13'48	
direct	3736 Jun 04 09:33	9°♄22'13					
evening set	3736 Oct 08 20:45	26°♄50'50		conjunction	3742 Mar 30 20:19	10°♃22'47	0°-57'-34
				minimum elong	3742 Mar 30 20:18	10°♃22'46	0°57'34
conjunction	3736 Oct 21 22:35	29°♄39'31	1°01'20	max. Earth dist.	3742 Mar 30 22:46	10°♃24'16	5.96582 AU
minimum elong	3736 Oct 21 22:35	29°♄39'31	1°01'20	morning rise	3742 Apr 12 23:30	13°♃33'16	
max. Earth dist.	3736 Oct 21 01:28	29°♄28'07	6.46459 AU		3742 Jul 01 14:22	0°♄	
	3736 Oct 23 12:35	0°♄		retrograde	3742 Aug 22 23:16	4°♄09'01	
morning rise	3736 Nov 03 21:52	2°♄26'54			3742 Oct 15 08:51	30°♄	
	3737 Jan 09 13:37	15°♄		opposition	3742 Oct 21 20:18	29°♃08'13	-1°-31'-3
retrograde	3737 Mar 04 01:17	19°♄08'19		min. Earth dist.	3742 Oct 21 05:40	29°♃13'07	3.94089 AU
	3737 Apr 27 19:20	15°♄		direct	3742 Dec 19 00:19	24°♃14'24	
opposition	3737 May 03 16:48	14°♄14'46	1°25'27		3743 Feb 17 18:43	0°♄	
min. Earth dist.	3737 May 04 15:24	14°♄07'30	4.46832 AU	evening set	3743 Apr 23 21:52	14°♄04'57	
direct	3737 Jul 05 09:28	9°♄12'38			3743 Apr 27 17:07	15°♄	
	3737 Sep 09 10:16	15°♄					
evening set	3737 Nov 08 11:35	26°♄38'07		conjunction	3743 May 07 06:21	17°♄18'50	0°-57'-4
max. Earth dist.	3737 Nov 19 14:11	29°♄02'26	6.45101 AU	minimum elong	3743 May 07 06:23	17°♄18'51	0°57'05
				max. Earth dist.	3743 May 08 18:22	17°♄40'39	5.93937 AU
conjunction	3737 Nov 21 08:06	29°♄25'12	0°52'35	morning rise	3743 May 20 17:52	20°♄34'18	
minimum elong	3737 Nov 21 08:07	29°♄25'13	0°52'35		3743 Jun 30 23:39	0°♄	
	3737 Nov 24 00:08	0°♄		retrograde	3743 Sep 29 23:21	11°♄15'12	
morning rise	3737 Dec 04 02:07	2°♄11'13		min. Earth dist.	3743 Nov 27 06:26	6°♄21'51	3.96381 AU
retrograde	3738 Apr 03 15:54	19°♄02'32		opposition	3743 Nov 28 13:48	6°♄11'11	-1°-11'-42
opposition	3738 Jun 03 13:28	14°♄10'23	1°02'07	direct	3744 Jan 25 11:00	1°♄15'45	
min. Earth dist.	3738 Jun 04 23:29	13°♄59'33	4.41660 AU	evening set	3744 May 30 15:17	20°♄53'10	
direct	3738 Aug 05 05:45	9°♄09'29					
evening set	3738 Dec 09 00:31	26°♄50'24		conjunction	3744 Jun 13 06:51	24°♄07'06	0°-33'-59
max. Earth dist.	3738 Dec 19 14:40	29°♄11'05	6.36455 AU	minimum elong	3744 Jun 13 06:53	24°♄07'07	0°34'00
				max. Earth dist.	3744 Jun 15 15:19	24°♄40'34	6.00884 AU
conjunction	3738 Dec 21 17:56	29°♄39'35	0°29'26	morning rise	3744 Jun 27 00:34	27°♄21'56	
minimum elong	3738 Dec 21 17:58	29°♄39'36	0°29'27		3744 Jul 08 08:10	0°♄	
	3738 Dec 23 06:39	0°♄		retrograde	3744 Nov 04 01:41	17°♄17'19	
morning rise	3739 Jan 03 09:36	2°♄28'09		min. Earth dist.	3745 Jan 01 02:31	12°♄24'47	4.07148 AU
retrograde	3739 May 05 23:48	19°♄57'47		opposition	3745 Jan 02 14:41	12°♄12'29	0°-25'-6
opposition	3739 Jul 05 21:14	15°♄05'34	0°20'34	direct	3745 Mar 02 02:00	7°♄14'12	
min. Earth dist.	3739 Jul 07 11:13	14°♄53'28	4.29986 AU	evening set	3745 Jul 06 13:38	26°♄15'59	
direct	3739 Sep 05 22:22	10°♄06'37		asc. node	3745 Jul 08 05:14	26°♄38'34	
desc. node	3739 Dec 17 13:53	23°♄15'20					
evening set	3740 Jan 09 10:25	28°♄19'32		conjunction	3745 Jul 20 07:14	29°♄24'38	0°01'08
	3740 Jan 16 18:18	0°♄		minimum elong	3745 Jul 20 07:13	29°♄24'38	0°01'08
max. Earth dist.	3740 Jan 20 02:17	0°♄45'52	6.22651 AU	behind sun begin	3745 Jul 19 22:50	29°♄19'51	
				behind sun end	3745 Jul 20 15:36	29°♄29'24	
conjunction	3740 Jan 22 03:14	1°♄13'57	0°-3'-8	max. Earth dist.	3745 Jul 22 11:10	29°♄54'23	6.14445 AU
minimum elong	3740 Jan 22 03:12	1°♄13'57	0°03'09		3745 Jul 22 20:58	0°♄	
behind sun begin	3740 Jan 21 19:15	1°♄09'24		morning rise	3745 Aug 03 01:33	2°♄33'15	
behind sun end	3740 Jan 22 11:09	1°♄18'29			3745 Oct 02 12:22	15°♄	
morning rise	3740 Feb 03 19:44	4°♄08'27		retrograde	3745 Dec 07 14:50	21°♄18'36	
	3740 Mar 26 04:14	15°♄		min. Earth dist.	3746 Feb 04 04:33	16°♄25'04	4.22048 AU
retrograde	3740 Jun 08 14:45	22°♄40'14		opposition	3746 Feb 05 08:34	16°♄15'36	0°27'28
opposition	3740 Aug 08 07:29	17°♄46'18	0°-30'-2		3746 Feb 14 19:16	15°♄	
min. Earth dist.	3740 Aug 09 12:05	17°♄37'04	4.14930 AU	direct	3746 Apr 06 00:57	11°♄14'43	
	3740 Aug 31 03:41	15°♄			3746 May 26 07:08	15°♄	
direct	3740 Oct 08 02:13	12°♄49'44		evening set	3746 Aug 10 16:26	29°♄35'03	
	3740 Nov 14 13:38	15°♄			3746 Aug 12 13:41	0°♄	
	3741 Feb 03 02:10	0°♄					
evening set	3741 Feb 10 13:08	1°♄44'38		conjunction	3746 Aug 24 06:50	2°♄35'41	0°34'14
max. Earth dist.	3741 Feb 22 04:15	4°♄29'36	6.07645 AU	minimum elong	3746 Aug 24 06:48	2°♄35'40	0°34'15
				max. Earth dist.	3746 Aug 25 15:12	2°♄53'38	6.29483 AU
conjunction	3741 Feb 23 08:21	4°♄46'16	0°-36'-7	morning rise	3746 Sep 06 19:51	5°♄35'26	
minimum elong	3741 Feb 23 08:19	4°♄46'15	0°36'07	retrograde	3747 Jan 08 02:14	23°♄15'47	
morning rise	3741 Mar 08 04:31	7°♄48'44		opposition	3747 Mar 09 03:01	18°♄16'16	1°08'04
retrograde	3741 Jul 15 15:12	27°♄31'55		min. Earth dist.	3747 Mar 08 14:45	18°♄20'20	4.35984 AU
opposition	3741 Sep 13 21:55	22°♄34'58	-1°-13'-44	direct	3747 May 09 03:06	13°♄14'01	
min. Earth dist.	3741 Sep 14 07:50	22°♄31'43	4.01270 AU		3747 Sep 08 01:57	0°♄	
direct	3741 Nov 12 06:03	17°♄40'36		evening set	3747 Sep 12 18:31	1°♄00'25	
	3742 Feb 14 17:25	0°♄					

conjunction	3747 Sep 26 02:15	3°♄53'30	0°55'40	retrograde	3753 Jul 20 15:16	2°♃27'24	
minimum elong	3747 Sep 26 02:14	3°♄53'29	0°55'39		3753 Aug 29 22:34	30°♂♂	
max. Earth dist.	3747 Sep 26 05:03	3°♄55'01	6.41259 AU	opposition	3753 Sep 18 22:09	27°♂29'58	-1°-17'-52
morning rise	3747 Oct 09 07:51	6°♄45'21		min. Earth dist.	3753 Sep 19 04:33	27°♂27'51	4.00186 AU
retrograde	3748 Feb 07 07:49	23°♄42'20		direct	3753 Nov 17 01:35	22°♂35'44	
opposition	3748 Apr 07 16:40	18°♄46'23	1°27'33		3754 Jan 26 12:51	0°♃	
min. Earth dist.	3748 Apr 07 23:40	18°♄44'06	4.44925 AU	evening set	3754 Mar 22 16:00	12°♃11'46	
direct	3748 Jun 08 19:32	13°♄43'49					
	3748 Oct 07 15:32	0°♄		conjunction	3754 Apr 04 17:33	15°♃21'30	0°-58'-52
evening set	3748 Oct 13 05:18	1°♄11'13		minimum elong	3754 Apr 04 17:32	15°♃21'29	0°58'53
max. Earth dist.	3748 Oct 25 07:42	3°♄47'15	6.46700 AU	max. Earth dist.	3754 Apr 05 00:14	15°♃25'33	5.95857 AU
				morning rise	3754 Apr 17 21:40	18°♃32'46	
conjunction	3748 Oct 26 06:27	3°♄59'30	1°01'04		3754 Jun 07 22:00	0°♂	
minimum elong	3748 Oct 26 06:27	3°♄59'30	1°01'04	retrograde	3754 Aug 28 02:45	9°♂12'08	
morning rise	3748 Nov 08 04:43	6°♄46'27		opposition	3754 Oct 26 21:51	4°♂10'52	-1°-30'-34
	3748 Dec 18 18:10	15°♄		min. Earth dist.	3754 Oct 26 05:54	4°♂16'14	3.93809 AU
retrograde	3749 Mar 08 06:23	23°♄27'27			3754 Dec 03 11:57	30°♂♂	
opposition	3749 May 07 23:55	18°♄34'11	1°23'27	direct	3754 Dec 24 00:26	29°♃16'57	
min. Earth dist.	3749 May 08 23:06	18°♄26'45	4.46668 AU		3755 Jan 13 11:09	0°♂	
	3749 Jun 08 01:47	15°♄♄			3755 Apr 11 12:15	15°♂	
direct	3749 Jul 09 16:24	13°♄32'15		evening set	3755 Apr 28 22:00	19°♂07'57	
	3749 Aug 10 13:20	15°♄					
	3749 Nov 08 06:11	0°♄♂		conjunction	3755 May 12 07:40	22°♂22'18	0°-55'-10
evening set	3749 Nov 12 18:36	0°♄♂58'16		minimum elong	3755 May 12 07:42	22°♂22'19	0°55'10
max. Earth dist.	3749 Nov 23 19:17	3°♄21'49	6.44562 AU	max. Earth dist.	3755 May 13 23:24	22°♂46'21	5.94131 AU
				morning rise	3755 May 25 20:14	25°♂38'10	
conjunction	3749 Nov 25 14:24	3°♄45'18	0°50'08		3755 Jun 13 07:46	0°♂	
minimum elong	3749 Nov 25 14:26	3°♄45'19	0°50'07	retrograde	3755 Oct 04 23:30	16°♂16'54	
morning rise	3749 Dec 08 07:55	6°♄31'20		min. Earth dist.	3755 Dec 02 03:52	11°♂23'47	3.97046 AU
retrograde	3750 Apr 08 02:18	23°♄25'16		opposition	3755 Dec 03 12:23	11°♂12'44	-1°-6'-40
opposition	3750 Jun 07 23:47	18°♄33'13	0°57'16	direct	3756 Jan 30 09:10	6°♂17'02	
min. Earth dist.	3750 Jun 09 11:12	18°♄21'56	4.40778 AU	evening set	3756 Jun 04 16:19	25°♂52'26	
direct	3750 Aug 09 16:07	13°♄32'34					
	3750 Dec 07 14:39	0°♂		conjunction	3756 Jun 18 08:27	29°♂06'10	0°-29'-40
evening set	3750 Dec 13 07:52	1°♂15'26		minimum elong	3756 Jun 18 08:29	29°♂06'11	0°29'42
max. Earth dist.	3750 Dec 23 20:47	3°♂35'52	6.35297 AU	max. Earth dist.	3756 Jun 20 15:54	29°♂38'55	6.01947 AU
					3756 Jun 22 03:35	0°♂♂	
conjunction	3750 Dec 26 00:57	4°♂04'56	0°25'21	morning rise	3756 Jul 02 02:51	2°♂20'46	
minimum elong	3750 Dec 26 00:58	4°♂04'57	0°25'21	retrograde	3756 Nov 08 18:42	22°♂09'39	
morning rise	3751 Jan 07 16:33	6°♂53'56		min. Earth dist.	3757 Jan 05 20:03	17°♂17'08	4.08494 AU
retrograde	3751 May 10 13:59	24°♂29'02		opposition	3757 Jan 07 07:50	17°♂04'56	0°-17'-55
opposition	3751 Jul 10 12:12	19°♂36'35	0°13'53	direct	3757 Mar 06 21:43	12°♂06'17	
min. Earth dist.	3751 Jul 12 00:33	19°♂24'59	4.28617 AU	asc. node	3757 May 20 00:22	19°♂58'20	
direct	3751 Sep 10 09:46	14°♂37'55			3757 Jul 06 17:29	0°♂	
desc. node	3751 Oct 29 01:28	18°♂04'22		evening set	3757 Jul 11 11:38	1°♂04'38	
	3751 Dec 31 23:52	0°♂♂					
evening set	3752 Jan 13 20:29	2°♂♂54'01		conjunction	3757 Jul 25 05:22	4°♂12'37	0°06'01
max. Earth dist.	3752 Jan 24 15:35	5°♂22'39	6.21185 AU	minimum elong	3757 Jul 25 05:21	4°♂12'36	0°06'00
				behind sun begin	3757 Jul 24 21:25	4°♂08'05	
conjunction	3752 Jan 26 13:23	5°♂49'02	0°-7'-48	behind sun end	3757 Jul 25 13:18	4°♂17'07	
minimum elong	3752 Jan 26 13:22	5°♂49'02	0°07'49	max. Earth dist.	3757 Jul 27 08:31	4°♂41'50	6.15986 AU
behind sun begin	3752 Jan 26 06:10	5°♂44'54		morning rise	3757 Aug 07 23:14	7°♂20'22	
behind sun end	3752 Jan 26 20:34	5°♂53'09			3757 Sep 12 06:15	15°♂	
morning rise	3752 Feb 08 05:58	8°♂44'12		retrograde	3757 Dec 12 03:14	25°♂58'05	
	3752 Mar 07 09:53	15°♂♂		opposition	3758 Feb 09 20:30	20°♂55'31	0°34'00
retrograde	3752 Jun 13 12:03	27°♂23'20		min. Earth dist.	3758 Feb 08 18:11	21°♂04'23	4.23632 AU
opposition	3752 Aug 13 03:47	22°♂29'05	0°-36'-42	direct	3758 Apr 10 16:30	15°♂54'27	
min. Earth dist.	3752 Aug 14 07:20	22°♂20'11	4.13464 AU		3758 Jul 27 00:54	0°♂♂	
direct	3752 Oct 12 19:10	17°♂32'51		evening set	3758 Aug 15 09:26	4°♂11'01	
	3753 Jan 17 14:33	0°♂♂					
evening set	3753 Feb 15 04:07	6°♂31'23		conjunction	3758 Aug 28 23:00	7°♂10'42	0°38'00
				minimum elong	3758 Aug 28 22:58	7°♂10'41	0°38'00
conjunction	3753 Feb 27 23:40	9°♂33'46	0°-39'-54	max. Earth dist.	3758 Aug 30 03:35	7°♂26'31	6.30983 AU
minimum elong	3753 Feb 27 23:38	9°♂33'45	0°39'55	morning rise	3758 Sep 11 11:18	10°♂09'29	
max. Earth dist.	3753 Feb 26 21:16	9°♂18'05	6.06300 AU	retrograde	3759 Jan 12 08:53	27°♂43'34	
morning rise	3753 Mar 12 20:38	12°♂37'09		opposition	3759 Mar 13 10:51	22°♂44'29	1°12'05
	3753 Jun 10 15:48	0°♂♂		min. Earth dist.	3759 Mar 13 00:40	22°♂47'51	4.37302 AU

direct	3759 May 13 14:31	17° 17 42'07		minimum elong	3765 Mar 04 19:04	14° 18 32'06	0°43'36
	3759 Aug 22 08:18	0° 0		max. Earth dist.	3765 Mar 03 21:11	14° 18 19'02	6.04387 AU
evening set	3759 Sep 17 06:07	5° 0 25'34		morning rise	3765 Mar 17 16:49	17° 18 36'40	
					3765 May 13 14:58	0° 0	
conjunction	3759 Sep 30 13:04	8° 0 17'52	0°57'22	retrograde	3765 Jul 25 23:35	7° 0 36'15	
minimum elong	3759 Sep 30 13:02	8° 0 17'52	0°57'22	opposition	3765 Sep 24 03:36	2° 0 38'17	-1°-21'-41
max. Earth dist.	3759 Sep 30 13:59	8° 0 18'22	6.42297 AU	min. Earth dist.	3765 Sep 24 07:47	2° 0 36'54	3.98646 AU
morning rise	3759 Oct 13 17:25	11° 0 08'51			3765 Oct 15 07:05	30° 0 38	
retrograde	3760 Feb 11 11:51	28° 0 02'06		direct	3765 Nov 22 03:38	27° 0 44'10	
opposition	3760 Apr 11 22:24	23° 0 06'32	1°28'19		3765 Dec 29 09:37	0° 0	
min. Earth dist.	3760 Apr 12 07:03	23° 0 03'44	4.45605 AU	evening set	3766 Mar 27 18:13	17° 0 24'36	
direct	3760 Jun 13 03:41	18° 0 04'02					
	3760 Sep 21 01:27	0° 0		conjunction	3766 Apr 09 20:54	20° 0 35'18	0°-59'-48
evening set	3760 Oct 17 12:52	5° 0 29'56		minimum elong	3766 Apr 09 20:53	20° 0 35'18	0°59'50
max. Earth dist.	3760 Oct 29 10:06	8° 0 03'16	6.46937 AU	max. Earth dist.	3766 Apr 10 08:25	20° 0 42'18	5.94846 AU
				morning rise	3766 Apr 23 02:14	23° 0 47'35	
conjunction	3760 Oct 30 12:59	8° 0 17'46	1°00'27		3766 May 19 12:09	0° 0	
minimum elong	3760 Oct 30 13:00	8° 0 17'46	1°00'26	retrograde	3766 Sep 02 11:11	14° 0 30'55	
morning rise	3760 Nov 12 10:35	11° 0 04'21		min. Earth dist.	3766 Oct 31 09:51	9° 0 35'39	3.93479 AU
	3760 Dec 01 02:13	15° 0		opposition	3766 Nov 01 05:01	9° 0 29'12	-1°-29'-20
retrograde	3761 Mar 12 12:53	27° 0 44'59		direct	3766 Dec 29 04:20	4° 0 35'11	
opposition	3761 May 12 06:28	22° 0 51'54	1°20'59		3767 Mar 23 22:51	15° 0	
min. Earth dist.	3761 May 13 08:20	22° 0 43'37	4.46420 AU	evening set	3767 May 04 04:59	24° 0 26'39	
direct	3761 Jul 14 00:42	17° 0 50'03					
	3761 Oct 22 21:17	0° 0		conjunction	3767 May 17 15:39	27° 0 41'20	0°-52'-42
evening set	3761 Nov 17 00:05	5° 0 16'44		minimum elong	3767 May 17 15:41	27° 0 41'21	0°52'43
max. Earth dist.	3761 Nov 27 23:00	7° 0 39'35	6.43818 AU	max. Earth dist.	3767 May 19 09:42	28° 0 06'44	5.94508 AU
					3767 May 27 05:35	0° 0	
conjunction	3761 Nov 29 19:29	8° 0 03'52	0°47'22	morning rise	3767 May 31 05:27	0° 0 57'32	
minimum elong	3761 Nov 29 19:31	8° 0 03'52	0°47'23	retrograde	3767 Oct 10 02:55	21° 0 32'29	
morning rise	3761 Dec 12 12:27	10° 0 50'00		min. Earth dist.	3767 Dec 07 05:41	16° 0 39'44	3.98101 AU
retrograde	3762 Apr 12 10:39	27° 0 47'28		opposition	3767 Dec 08 16:00	16° 0 28'03	-1°00'-50
opposition	3762 Jun 12 09:34	22° 0 55'24	0°52'03	direct	3768 Feb 04 14:08	11° 0 31'57	
min. Earth dist.	3762 Jun 13 20:54	22° 0 44'09	4.39560 AU		3768 Jun 05 09:41	0° 0	
direct	3762 Aug 13 23:27	17° 0 54'59		evening set	3768 Jun 09 22:24	1° 0 03'28	
	3762 Nov 21 04:25	0° 0					
evening set	3762 Dec 17 14:58	5° 0 41'02		conjunction	3768 Jun 23 15:16	4° 0 16'44	0°-24'-56
max. Earth dist.	3762 Dec 28 03:53	8° 0 02'01	6.33685 AU	minimum elong	3768 Jun 23 15:18	4° 0 16'45	0°24'56
				max. Earth dist.	3768 Jun 26 00:59	4° 0 50'42	6.03614 AU
conjunction	3762 Dec 30 07:48	8° 0 31'04	0°21'04	morning rise	3768 Jul 07 09:51	7° 0 30'39	
minimum elong	3762 Dec 30 07:49	8° 0 31'05	0°21'03	retrograde	3768 Nov 13 15:31	27° 0 10'03	
morning rise	3763 Jan 11 23:20	11° 0 20'41		min. Earth dist.	3769 Jan 10 17:23	22° 0 17'22	4.10582 AU
retrograde	3763 May 15 07:03	29° 0 03'02		opposition	3769 Jan 12 04:21	22° 0 05'28	0°-10'-19
opposition	3763 Jul 15 03:59	24° 0 10'26	0°06'58	direct	3769 Mar 11 22:20	17° 0 06'27	
min. Earth dist.	3763 Jul 16 16:57	23° 0 58'37	4.26682 AU	asc. node	3769 Mar 29 20:02	17° 0 38'22	
desc. node	3763 Sep 08 05:42	19° 0 16'15			3769 Jun 19 09:47	0° 0	
direct	3763 Sep 14 23:11	19° 0 12'02		evening set	3769 Jul 16 12:13	5° 0 58'18	
	3763 Dec 14 21:09	0° 0					
evening set	3764 Jan 18 08:13	7° 0 33'28		conjunction	3769 Jul 30 05:31	9° 0 05'04	0°10'58
max. Earth dist.	3764 Jan 29 04:04	10° 0 03'15	6.19086 AU	minimum elong	3769 Jul 30 05:30	9° 0 05'03	0°10'58
				behind sun begin	3769 Jul 29 23:18	9° 0 01'33	
conjunction	3764 Jan 31 01:18	10° 0 29'25	0°-12'-34	behind sun end	3769 Jul 30 11:42	9° 0 08'34	
minimum elong	3764 Jan 31 01:17	10° 0 29'24	0°12'34	max. Earth dist.	3769 Aug 01 06:47	9° 0 33'03	6.18313 AU
behind sun begin	3764 Jan 30 20:02	10° 0 26'23		morning rise	3769 Aug 12 22:54	12° 0 11'32	
behind sun end	3764 Jan 31 06:31	10° 0 32'25			3769 Aug 25 13:25	15° 0	
morning rise	3764 Feb 12 18:23	13° 0 25'39			3769 Nov 26 15:54	0° 0	
	3764 Feb 19 15:09	15° 0		retrograde	3769 Dec 16 13:00	0° 0 38'31	
	3764 May 11 01:10	0° 0			3770 Jan 05 08:01	30° 0 38	
retrograde	3764 Jun 18 11:00	2° 0 14'36		min. Earth dist.	3770 Feb 13 07:37	25° 0 44'48	4.25993 AU
	3764 Jul 27 05:55	30° 0 38		opposition	3770 Feb 14 08:51	25° 0 36'19	0°40'22
opposition	3764 Aug 18 02:49	27° 0 31'56	0°-43'-25	direct	3770 Apr 15 09:02	20° 0 34'58	
min. Earth dist.	3764 Aug 19 03:20	27° 0 31'00	4.11362 AU		3770 Jul 08 22:54	0° 0	
direct	3764 Oct 17 12:35	22° 0 23'59		evening set	3770 Aug 20 02:03	8° 0 45'04	
	3764 Dec 29 06:56	0° 0					
evening set	3765 Feb 19 22:52	11° 0 28'37		conjunction	3770 Sep 02 14:46	11° 0 43'27	0°41'33
				minimum elong	3770 Sep 02 14:44	11° 0 43'26	0°41'32
conjunction	3765 Mar 04 19:06	14° 0 32'07	0°-43'-35	max. Earth dist.	3770 Sep 03 15:58	11° 0 45'20	6.33195 AU

morning rise	3770 Sep 16 01:51	14° \mathbb{M} 40'48		minimum elong	3776 Feb 04 14:07	15° \approx 12'01	0°17'16
	3770 Dec 10 13:05	0° $\underline{\mathbf{A}}$		morning rise	3776 Feb 17 07:45	18° \approx 09'35	
retrograde	3771 Jan 16 14:08	2° $\underline{\mathbf{A}}$ 06'26			3776 Apr 13 02:55	0° \mathbb{H}	
	3771 Feb 22 11:44	30° \mathbb{R} \mathbb{M}		retrograde	3776 Jun 23 15:20	7° \mathbb{H} 10'35	
opposition	3771 Mar 17 17:12	27° \mathbb{M} 07'52	1°15'38	opposition	3776 Aug 23 04:03	2° \mathbb{H} 15'35	0°-49'-54
min. Earth dist.	3771 Mar 17 09:59	27° \mathbb{M} 10'14	4.39195 AU	min. Earth dist.	3776 Aug 24 02:58	2° \mathbb{H} 08'09	4.08829 AU
direct	3771 May 18 02:13	22° \mathbb{M} 05'24			3776 Sep 10 06:15	30° \mathbb{R} \approx	
	3771 Aug 03 23:51	0° $\underline{\mathbf{A}}$		direct	3776 Oct 22 09:27	27° \approx 19'58	
evening set	3771 Sep 21 15:19	9° $\underline{\mathbf{A}}$ 44'08			3776 Dec 02 15:59	0° \mathbb{H}	
				evening set	3777 Feb 24 20:23	16° \mathbb{H} 32'25	
conjunction	3771 Oct 04 21:09	12° $\underline{\mathbf{A}}$ 35'27	0°58'43	conjunction	3777 Mar 09 17:29	19° \mathbb{H} 37'16	0°-46'-59
minimum elong	3771 Oct 04 21:08	12° $\underline{\mathbf{A}}$ 35'27	0°58'44	minimum elong	3777 Mar 09 17:27	19° \mathbb{H} 37'15	0°46'59
max. Earth dist.	3771 Oct 04 17:03	12° $\underline{\mathbf{A}}$ 33'14	6.43704 AU	max. Earth dist.	3777 Mar 08 23:57	19° \mathbb{H} 26'46	6.02168 AU
morning rise	3771 Oct 18 00:34	15° $\underline{\mathbf{A}}$ 25'29		morning rise	3777 Mar 22 16:13	22° \mathbb{H} 43'17	
	3772 Jan 08 02:17	0° \mathbb{M}			3777 Apr 23 06:16	0° \mathbb{Y}	
retrograde	3772 Feb 15 13:40	2° \mathbb{M} 14'18		retrograde	3777 Jul 31 09:50	12° \mathbb{Y} 53'06	
	3772 Mar 25 03:12	30° \mathbb{R} $\underline{\mathbf{A}}$		opposition	3777 Sep 29 11:50	7° \mathbb{Y} 54'39	-1°-24'-54
opposition	3772 Apr 16 01:52	27° $\underline{\mathbf{A}}$ 19'06	1°28'36	min. Earth dist.	3777 Sep 29 11:53	7° \mathbb{Y} 54'38	3.97008 AU
min. Earth dist.	3772 Apr 16 13:23	27° $\underline{\mathbf{A}}$ 15'21	4.46455 AU	direct	3777 Nov 27 05:39	3° \mathbb{Y} 00'46	
direct	3772 Jun 17 10:01	22° $\underline{\mathbf{A}}$ 16'34		evening set	3778 Apr 02 00:05	22° \mathbb{Y} 45'58	
	3772 Sep 03 00:44	0° \mathbb{M}					
evening set	3772 Oct 21 17:10	9° \mathbb{M} 40'40		conjunction	3778 Apr 15 03:48	25° \mathbb{Y} 57'38	-1°00'-14
max. Earth dist.	3772 Nov 02 11:28	12° \mathbb{M} 12'23	6.47154 AU	minimum elong	3778 Apr 15 03:48	25° \mathbb{Y} 57'38	1°00'15
				max. Earth dist.	3778 Apr 15 19:54	26° \mathbb{Y} 07'26	5.93934 AU
conjunction	3772 Nov 03 16:38	12° \mathbb{M} 28'07	0°59'31	morning rise	3778 Apr 28 10:30	29° \mathbb{Y} 10'56	
minimum elong	3772 Nov 03 16:38	12° \mathbb{M} 28'07	0°59'31		3778 May 01 19:59	0° \mathbb{B}	
	3772 Nov 15 10:37	15° \mathbb{M}			3778 Jul 12 10:36	15° \mathbb{B}	
morning rise	3772 Nov 16 13:15	15° \mathbb{M} 14'17		retrograde	3778 Sep 07 21:25	19° \mathbb{B} 57'23	
	3773 Feb 08 23:16	0° \mathbb{X}		opposition	3778 Nov 06 14:48	14° \mathbb{B} 55'07	-1°-27'-16
retrograde	3773 Mar 16 15:09	1° \mathbb{X} 55'04		min. Earth dist.	3778 Nov 05 16:04	15° \mathbb{B} 02'48	3.93413 AU
	3773 Apr 21 11:01	30° \mathbb{R} \mathbb{M}			3778 Nov 06 00:20	15° \mathbb{R} \mathbb{B}	
opposition	3773 May 16 10:24	27° \mathbb{M} 02'14	1°18'09	direct	3779 Jan 03 12:46	10° \mathbb{B} 00'54	
min. Earth dist.	3773 May 17 13:59	26° \mathbb{M} 53'25	4.45991 AU		3779 Feb 28 14:50	15° \mathbb{B}	
direct	3773 Jul 18 04:52	22° \mathbb{M} 00'33		evening set	3779 May 09 14:17	29° \mathbb{B} 51'31	
	3773 Oct 05 04:01	0° \mathbb{X}			3779 May 10 04:26	0° \mathbb{I}	
evening set	3773 Nov 21 03:28	9° \mathbb{X} 28'47		conjunction	3779 May 23 02:12	3° \mathbb{I} 06'23	0°-49'-44
max. Earth dist.	3773 Dec 01 22:12	11° \mathbb{X} 49'49	6.42752 AU	minimum elong	3779 May 23 02:14	3° \mathbb{I} 06'24	0°49'45
				max. Earth dist.	3779 May 25 01:44	3° \mathbb{I} 35'01	5.95289 AU
conjunction	3773 Dec 03 22:14	12° \mathbb{X} 16'06	0°44'26	morning rise	3779 Jun 05 16:49	6° \mathbb{I} 22'35	
minimum elong	3773 Dec 03 22:16	12° \mathbb{X} 16'07	0°44'26	retrograde	3779 Oct 15 08:50	26° \mathbb{I} 51'39	
morning rise	3773 Dec 16 14:59	15° \mathbb{X} 02'33		min. Earth dist.	3779 Dec 12 09:44	21° \mathbb{I} 58'52	3.99608 AU
	3774 Mar 10 13:11	0° \mathbb{B}		opposition	3779 Dec 13 20:41	21° \mathbb{I} 46'58	0°-54'-25
retrograde	3774 Apr 16 20:22	2° \mathbb{B} 04'58		direct	3780 Feb 09 21:02	16° \mathbb{I} 50'28	
	3774 May 24 09:16	30° \mathbb{R} \mathbb{X}		evening set	3780 May 18 14:38	0° \mathbb{E}	
opposition	3774 Jun 16 17:59	27° \mathbb{X} 12'56	0°46'39		3780 Jun 15 05:21	6° \mathbb{E} 16'23	
min. Earth dist.	3774 Jun 18 07:28	27° \mathbb{X} 00'59	4.37900 AU	conjunction	3780 Jun 28 22:30	9° \mathbb{E} 28'50	0°-19'-57
direct	3774 Aug 18 06:57	22° \mathbb{X} 12'41		minimum elong	3780 Jun 28 22:31	9° \mathbb{E} 28'51	0°19'59
	3774 Nov 03 02:06	0° \mathbb{B}		max. Earth dist.	3780 Jul 01 08:36	10° \mathbb{E} 02'50	6.05664 AU
evening set	3774 Dec 21 20:55	10° \mathbb{B} 03'41		morning rise	3780 Jul 12 17:21	12° \mathbb{E} 41'50	
max. Earth dist.	3775 Jan 01 09:17	12° \mathbb{B} 25'01	6.31552 AU		3780 Oct 12 07:36	0° \mathbb{Q}	
				retrograde	3780 Nov 18 09:03	2° \mathbb{Q} 10'17	
conjunction	3775 Jan 03 13:49	12° \mathbb{B} 54'33	0°16'42		3780 Dec 25 05:41	30° \mathbb{R} \mathbb{E}	
minimum elong	3775 Jan 03 13:50	12° \mathbb{B} 54'34	0°16'42	min. Earth dist.	3781 Jan 15 13:04	27° \mathbb{E} 17'47	4.12934 AU
morning rise	3775 Jan 16 05:24	15° \mathbb{B} 45'05		opposition	3781 Jan 17 00:06	27° \mathbb{E} 05'52	0°-2'-40
	3775 Mar 31 08:36	0° \approx		asc. node	3781 Feb 05 22:49	24° \mathbb{E} 31'40	
retrograde	3775 May 19 22:53	3° \approx 36'48		direct	3781 Mar 16 21:21	22° \mathbb{E} 06'26	
	3775 Jul 09 19:40	30° \mathbb{R} \mathbb{B}		evening set	3781 May 30 16:53	0° \mathbb{Q}	
opposition	3775 Jul 19 19:57	28° \mathbb{B} 44'01	0°00'02		3781 Jul 21 12:12	10° \mathbb{Q} 51'15	
desc. node	3775 Jul 20 01:57	28° \mathbb{B} 42'06		conjunction	3781 Aug 04 05:02	13° \mathbb{Q} 56'44	0°15'51
min. Earth dist.	3775 Jul 21 07:28	28° \mathbb{B} 32'39	4.24213 AU	minimum elong	3781 Aug 04 05:01	13° \mathbb{Q} 56'44	0°15'51
direct	3775 Sep 19 09:34	23° \mathbb{B} 45'59		max. Earth dist.	3781 Aug 06 02:59	14° \mathbb{Q} 22'42	6.20760 AU
	3775 Nov 24 22:25	0° \approx			3781 Aug 08 21:04	15° \mathbb{Q}	
evening set	3776 Jan 22 20:47	12° \approx 14'52		morning rise	3781 Aug 17 21:42	17° \mathbb{Q} 01'48	
max. Earth dist.	3776 Feb 02 19:21	14° \approx 47'07	6.16481 AU				
	3776 Feb 03 17:29	15° \approx					
conjunction	3776 Feb 04 14:08	15° \approx 12'01	0°-17'-15				

	3781 Oct 21 18:12	0°♎		morning rise	3787 Jan 20 15:04	20°♊18'34	
retrograde	3781 Dec 21 00:35	5°♎18'13			3787 Mar 07 14:45	0°♊	
opposition	3782 Feb 18 20:51	0°♎16'30	0°46'30	retrograde	3787 May 24 20:45	8°♊19'42	
min. Earth dist.	3782 Feb 17 22:45	0°♎23'54	4.28305 AU	desc. node	3787 May 29 10:28	8°♊17'43	
	3782 Feb 20 22:04	30°♎♏		opposition	3787 Jul 24 15:57	3°♊26'43	0°-7'-11
direct	3782 Apr 20 03:23	25°♏14'54		min. Earth dist.	3787 Jul 26 02:59	3°♊15'29	4.21877 AU
	3782 Jun 16 18:48	0°♎			3787 Aug 23 10:12	30°♎♊	
evening set	3782 Aug 24 17:58	13°♎18'58		direct	3787 Sep 24 02:27	28°♊28'59	
					3787 Oct 25 12:55	0°♊	
conjunction	3782 Sep 07 05:48	16°♎16'09	0°44'52		3788 Jan 18 12:12	15°♊	
minimum elong	3782 Sep 07 05:46	16°♎16'07	0°44'52	evening set	3788 Jan 27 12:46	17°♊04'36	
max. Earth dist.	3782 Sep 08 03:20	16°♎27'57	6.35190 AU	max. Earth dist.	3788 Feb 07 15:00	19°♊39'45	6.14175 AU
morning rise	3782 Sep 20 15:48	19°♎12'14					
	3782 Nov 13 17:17	0°♏		conjunction	3788 Feb 09 06:37	20°♊02'54	0°-22'00
retrograde	3783 Jan 20 18:07	6°♏30'34		minimum elong	3788 Feb 09 06:35	20°♊02'53	0°22'01
opposition	3783 Mar 21 23:51	1°♏32'29	1°18'50	morning rise	3788 Feb 22 00:43	23°♊01'40	
min. Earth dist.	3783 Mar 21 18:45	1°♏34'10	4.40760 AU		3788 Mar 24 00:44	0°♋	
	3783 Apr 02 21:56	30°♎♎		retrograde	3788 Jun 28 20:36	12°♋13'20	
direct	3783 May 22 12:14	26°♎29'56		opposition	3788 Aug 28 08:06	7°♋17'58	0°-56'-14
	3783 Jul 11 07:58	0°♏		min. Earth dist.	3788 Aug 29 03:33	7°♋11'39	4.06783 AU
evening set	3783 Sep 26 01:02	14°♏05'08		direct	3788 Oct 27 07:20	2°♋22'45	
				evening set	3789 Mar 01 20:12	21°♋40'59	
conjunction	3783 Oct 09 05:53	16°♏55'39	0°59'49				
minimum elong	3783 Oct 09 05:52	16°♏55'39	0°59'49	conjunction	3789 Mar 14 17:55	24°♋46'51	0°-50'-7
max. Earth dist.	3783 Oct 08 21:54	16°♏51'21	6.44734 AU	minimum elong	3789 Mar 14 17:53	24°♋46'50	0°50'07
morning rise	3783 Oct 22 08:10	19°♏44'52		max. Earth dist.	3789 Mar 14 04:46	24°♋38'57	6.00579 AU
	3783 Dec 13 06:21	0°♌		morning rise	3789 Mar 27 17:42	27°♋54'01	
retrograde	3784 Feb 19 17:40	6°♌30'33			3789 Apr 05 13:50	0°♌	
opposition	3784 Apr 20 06:48	1°♌35'48	1°28'29	retrograde	3789 Aug 05 19:22	18°♌11'21	
min. Earth dist.	3784 Apr 20 21:23	1°♌31'05	4.46900 AU	opposition	3789 Oct 04 20:48	13°♌12'18	-1°-27'-28
	3784 May 02 20:25	30°♎♌		min. Earth dist.	3789 Oct 04 16:51	13°♌13'37	3.96067 AU
direct	3784 Jun 21 18:16	26°♏33'20		direct	3789 Dec 02 11:11	8°♌18'31	
	3784 Aug 10 14:01	0°♌		evening set	3790 Apr 07 05:44	28°♌05'37	
evening set	3784 Oct 25 23:25	13°♌56'49			3790 Apr 15 02:32	0°♍	
	3784 Oct 30 21:08	15°♌					
				conjunction	3790 Apr 20 10:40	1°♍17'54	-1°00'-13
conjunction	3784 Nov 07 22:02	16°♌44'02	0°58'17	minimum elong	3790 Apr 20 10:40	1°♍17'54	1°00'13
minimum elong	3784 Nov 07 22:03	16°♌44'02	0°58'18	max. Earth dist.	3790 Apr 21 09:33	1°♍31'49	5.93744 AU
max. Earth dist.	3784 Nov 06 12:06	16°♌25'43	6.46971 AU	morning rise	3790 May 03 18:20	4°♍31'45	
morning rise	3784 Nov 20 18:06	19°♌30'02			3790 Jun 18 19:28	15°♍	
	3785 Jan 13 02:33	0°♊		retrograde	3790 Sep 13 06:42	25°♍17'56	
retrograde	3785 Mar 20 21:56	6°♊12'14		opposition	3790 Nov 11 22:17	20°♍15'12	-1°-24'-31
opposition	3785 May 20 17:24	1°♊19'34	1°14'53	min. Earth dist.	3790 Nov 10 21:30	20°♍23'35	3.94013 AU
min. Earth dist.	3785 May 21 23:13	1°♊10'01	4.45203 AU	direct	3791 Jan 08 20:05	15°♍20'48	
	3785 May 31 05:11	30°♎♌			3791 Apr 22 23:21	0°♎	
direct	3785 Jul 22 12:17	26°♌17'57		evening set	3791 May 14 21:15	5°♎08'14	
	3785 Sep 12 05:23	0°♊					
evening set	3785 Nov 25 09:23	13°♊48'37		conjunction	3791 May 28 09:57	8°♎22'53	0°-46'-27
max. Earth dist.	3785 Dec 06 03:26	16°♊09'42	6.41418 AU	minimum elong	3791 May 28 09:59	8°♎22'54	0°46'28
				max. Earth dist.	3791 May 30 11:43	8°♎52'44	5.96589 AU
conjunction	3785 Dec 08 03:56	16°♊36'19	0°41'10	morning rise	3791 Jun 11 01:31	11°♎38'51	
minimum elong	3785 Dec 08 03:57	16°♊36'20	0°41'10		3791 Sep 14 21:35	0°♏	
morning rise	3785 Dec 20 20:13	19°♊23'10		retrograde	3791 Oct 20 07:32	1°♏59'57	
	3786 Feb 11 17:51	0°♊			3791 Nov 24 12:49	30°♎♎	
retrograde	3786 Apr 21 07:27	6°♊31'19		min. Earth dist.	3791 Dec 17 08:27	27°♎07'36	4.01457 AU
opposition	3786 Jun 21 06:10	1°♊39'17	0°40'47	opposition	3791 Dec 18 20:58	26°♎55'09	0°-47'-48
min. Earth dist.	3786 Jun 22 19:47	1°♊27'19	4.36094 AU	direct	3792 Feb 14 22:39	21°♎58'15	
	3786 Jul 04 11:48	30°♎♊			3792 Apr 29 01:10	0°♏	
direct	3786 Aug 22 16:11	26°♊39'20		evening set	3792 Jun 20 08:05	11°♏17'51	
	3786 Oct 10 02:26	0°♊					
evening set	3786 Dec 26 06:33	14°♊35'27		conjunction	3792 Jul 04 01:27	14°♏29'23	0°-15'-1
max. Earth dist.	3787 Jan 05 18:32	16°♊57'20	6.29414 AU	minimum elong	3792 Jul 04 01:28	14°♏29'23	0°15'03
				behind sun begin	3792 Jul 03 22:50	14°♏27'52	
conjunction	3787 Jan 07 23:15	17°♊27'07	0°12'06	behind sun end	3792 Jul 04 04:06	14°♏30'55	
minimum elong	3787 Jan 07 23:15	17°♊27'07	0°12'06	max. Earth dist.	3792 Jul 06 10:02	15°♏02'20	6.07878 AU
behind sun begin	3787 Jan 07 17:47	17°♊24'03		morning rise	3792 Jul 17 20:17	17°♏41'20	
behind sun end	3787 Jan 08 04:44	17°♊30'12			3792 Sep 14 07:02	0°♏	

retrograde	3792 Nov 23 00:33	6°♏58'58		max. Earth dist.	3799 Jan 10 07:16	21°♎34'19	6.27382 AU
asc. node	3792 Dec 17 11:11	5°♏59'50					
min. Earth dist.	3793 Jan 20 07:08	2°♏05'57	4.15261 AU	conjunction	3799 Jan 12 09:38	22°♎02'54	0°07'24
opposition	3793 Jan 21 15:51	1°♏54'50	0°04'41	minimum elong	3799 Jan 12 09:38	22°♎02'55	0°07'25
	3793 Feb 05 03:57	30°♎♎		behind sun begin	3799 Jan 12 02:21	21°♎58'47	
direct	3793 Mar 21 18:37	26°♎55'03		behind sun end	3799 Jan 12 16:55	22°♎07'02	
	3793 May 05 11:58	0°♏		morning rise	3799 Jan 25 01:27	24°♎55'13	
	3793 Jul 23 20:10	15°♏			3799 Feb 17 01:21	0°♎	
evening set	3793 Jul 26 07:50	15°♏33'17		desc. node	3799 Apr 07 23:58	9°♎09'58	
				retrograde	3799 May 29 17:52	13°♎05'19	
conjunction	3793 Aug 09 00:16	18°♏37'36	0°20'28	opposition	3799 Jul 29 12:47	8°♎12'06	0°-14'-24
minimum elong	3793 Aug 09 00:15	18°♏37'35	0°20'28	min. Earth dist.	3799 Jul 30 21:54	8°♎01'28	4.19807 AU
max. Earth dist.	3793 Aug 10 20:04	19°♏02'12	6.23008 AU	direct	3799 Sep 28 18:24	3°♎14'45	
morning rise	3793 Aug 22 16:06	21°♏41'20			3800 Jan 01 07:25	15°♎	
	3793 Sep 30 20:36	0°♎		evening set	3800 Feb 01 05:00	21°♎55'55	
retrograde	3793 Dec 25 07:03	9°♎48'26		max. Earth dist.	3800 Feb 12 09:47	24°♎33'16	6.12225 AU
min. Earth dist.	3794 Feb 22 08:44	4°♎54'07	4.30303 AU				
opposition	3794 Feb 23 05:14	4°♎47'16	0°52'09	conjunction	3800 Feb 13 23:00	24°♎55'07	0°-26'-35
	3794 Apr 12 09:00	30°♎♏		minimum elong	3800 Feb 13 22:58	24°♎55'07	0°26'36
direct	3794 Apr 24 15:17	29°♏45'32		morning rise	3800 Feb 26 17:47	27°♎54'59	
	3794 May 07 00:09	0°♎			3800 Mar 07 17:17	0°♎	
evening set	3794 Aug 29 06:53	17°♎44'58		retrograde	3800 Jul 05 01:03	17°♎16'01	
				opposition	3800 Sep 03 11:38	12°♎20'06	-1°-2'-8
conjunction	3794 Sep 11 17:41	20°♎41'06	0°47'51	min. Earth dist.	3800 Sep 04 03:54	12°♎14'47	4.05113 AU
minimum elong	3794 Sep 11 17:39	20°♎41'05	0°47'51	direct	3800 Nov 02 06:16	7°♎25'06	
max. Earth dist.	3794 Sep 12 09:43	20°♎49'52	6.36790 AU	evening set	3801 Mar 07 18:58	26°♎47'41	
morning rise	3794 Sep 25 02:43	23°♎36'07					
	3794 Oct 25 15:31	0°♏		conjunction	3801 Mar 20 17:37	29°♎54'29	0°-52'-50
retrograde	3795 Jan 24 23:03	10°♏48'52		minimum elong	3801 Mar 20 17:35	29°♎54'28	0°52'51
opposition	3795 Mar 26 04:32	5°♏51'22	1°21'33	max. Earth dist.	3801 Mar 20 10:25	29°♎50'09	5.99341 AU
min. Earth dist.	3795 Mar 26 03:15	5°♏51'47	4.41876 AU		3801 Mar 21 02:45	0°♎	
direct	3795 May 26 21:35	0°♏48'48		morning rise	3801 Apr 02 18:10	3°♎02'35	
evening set	3795 Sep 30 08:46	18°♏22'02		retrograde	3801 Aug 12 04:14	23°♎25'45	
				opposition	3801 Oct 11 03:32	18°♎26'10	-1°-29'-16
conjunction	3795 Oct 13 12:49	21°♏12'01	1°00'35	min. Earth dist.	3801 Oct 10 21:07	18°♎28'18	3.95409 AU
minimum elong	3795 Oct 13 12:49	21°♏12'01	1°00'34	direct	3801 Dec 08 15:11	13°♎32'25	
max. Earth dist.	3795 Oct 13 00:53	21°♏05'35	6.45279 AU		3802 Mar 30 09:42	0°♎	
morning rise	3795 Oct 26 14:10	24°♏00'41		evening set	3802 Apr 13 09:37	3°♎20'36	
	3795 Nov 24 11:03	0°♎					
retrograde	3796 Feb 23 20:40	10°♎45'04		conjunction	3802 Apr 26 15:29	6°♎33'23	0°-59'-42
opposition	3796 Apr 24 11:15	5°♎50'41	1°27'56	minimum elong	3802 Apr 26 15:30	6°♎33'23	0°59'43
min. Earth dist.	3796 Apr 25 03:38	5°♎45'24	4.46884 AU	max. Earth dist.	3802 Apr 27 17:34	6°♎49'13	5.93703 AU
direct	3796 Jun 25 23:20	0°♎48'20		morning rise	3802 May 10 00:28	9°♎47'48	
	3796 Oct 15 00:35	15°♎			3802 Jun 01 01:09	15°♎	
evening set	3796 Oct 30 05:02	18°♎12'39			3802 Sep 01 03:19	0°♎	
max. Earth dist.	3796 Nov 10 15:21	20°♎40'31	6.46400 AU	retrograde	3802 Sep 19 10:59	0°♎33'02	
					3802 Oct 07 16:52	30°♎♎	
conjunction	3796 Nov 12 03:01	20°♎59'49	0°56'46	min. Earth dist.	3802 Nov 16 23:06	25°♎39'16	3.94615 AU
minimum elong	3796 Nov 12 03:02	20°♎59'50	0°56'46	opposition	3802 Nov 18 02:54	25°♎29'52	-1°-21'-8
morning rise	3796 Nov 24 22:22	23°♎45'49		direct	3803 Jan 14 23:06	20°♎35'09	
	3796 Dec 24 22:30	0°♎			3803 Apr 05 03:21	0°♎	
retrograde	3797 Mar 25 04:55	10°♎30'45		evening set	3803 May 21 02:00	10°♎19'49	
opposition	3797 May 25 01:00	5°♎38'21	1°11'13				
min. Earth dist.	3797 May 26 08:33	5°♎28'17	4.44123 AU	conjunction	3803 Jun 03 15:37	13°♎34'19	0°-42'-52
direct	3797 Jul 26 19:48	0°♎37'00		minimum elong	3803 Jun 03 15:39	13°♎34'20	0°42'53
evening set	3797 Nov 29 16:05	18°♎10'55		max. Earth dist.	3803 Jun 05 19:02	14°♎05'05	5.97767 AU
max. Earth dist.	3797 Dec 10 07:21	20°♎31'04	6.39906 AU	morning rise	3803 Jun 17 07:54	16°♎50'02	
					3803 Aug 17 09:59	0°♎	
conjunction	3797 Dec 12 10:09	20°♎59'03	0°37'40	retrograde	3803 Oct 26 06:12	7°♎04'01	
minimum elong	3797 Dec 12 10:10	20°♎59'04	0°37'40	min. Earth dist.	3803 Dec 23 07:35	2°♎11'20	4.03053 AU
morning rise	3797 Dec 25 02:22	23°♎46'27		opposition	3803 Dec 24 19:25	1°♎59'06	0°-40'-56
	3798 Jan 23 10:38	0°♎			3804 Jan 08 19:47	30°♎♎	
retrograde	3798 Apr 25 21:30	11°♎00'59		direct	3804 Feb 21 00:37	27°♎01'45	
opposition	3798 Jun 25 19:37	6°♎08'54	0°34'38		3804 Apr 04 02:00	0°♎	
min. Earth dist.	3798 Jun 27 09:19	5°♎56'53	4.34245 AU	evening set	3804 Jun 26 09:35	16°♎16'11	
direct	3798 Aug 27 03:19	1°♎09'13					
evening set	3798 Dec 30 16:46	19°♎10'24		conjunction	3804 Jul 10 03:18	19°♎26'58	0°-10'-2

minimum elong	3804 Jul 10 03:18	19° \mathfrak{G} 26'59	0°10'03	opposition	3810 Jul 01 09:20	10° \mathfrak{Z} 37'45	0°28'21
behind sun begin	3804 Jul 09 20:37	19° \mathfrak{G} 23'08		min. Earth dist.	3810 Jul 02 23:01	10° \mathfrak{Z} 25'45	4.32929 AU
behind sun end	3804 Jul 10 09:59	19° \mathfrak{G} 30'50		direct	3810 Sep 01 15:00	5° \mathfrak{Z} 38'26	
max. Earth dist.	3804 Jul 12 12:05	19° \mathfrak{G} 59'53	6.09754 AU	evening set	3811 Jan 05 02:19	23° \mathfrak{Z} 42'42	
morning rise	3804 Jul 23 22:00	22° \mathfrak{G} 38'00		max. Earth dist.	3811 Jan 15 16:35	26° \mathfrak{Z} 07'03	6.25926 AU
	3804 Aug 26 05:38	0° \mathfrak{Q}					
asc. node	3804 Oct 28 20:59	10° \mathfrak{Q} 15'32		conjunction	3811 Jan 17 18:55	26° \mathfrak{Z} 35'43	0°02'46
retrograde	3804 Nov 28 14:48	11° \mathfrak{Q} 46'04		minimum elong	3811 Jan 17 18:56	26° \mathfrak{Z} 35'44	0°02'46
min. Earth dist.	3805 Jan 25 22:41	6° \mathfrak{Q} 53'07	4.17226 AU	behind sun begin	3811 Jan 17 10:58	26° \mathfrak{Z} 31'13	
opposition	3805 Jan 27 06:42	6° \mathfrak{Q} 42'17	0°11'58	behind sun end	3811 Jan 18 02:53	26° \mathfrak{Z} 40'14	
direct	3805 Mar 27 12:47	1° \mathfrak{Q} 42'09		morning rise	3811 Jan 30 11:01	29° \mathfrak{Z} 28'43	
	3805 Jul 08 00:54	15° \mathfrak{Q}			3811 Feb 01 18:20	0° \mathfrak{W}	
evening set	3805 Aug 01 03:40	20° \mathfrak{Q} 15'11		desc. node	3811 Feb 18 05:58	3° \mathfrak{W} 40'00	
					3811 Apr 22 13:08	15° \mathfrak{W}	
conjunction	3805 Aug 14 19:25	23° \mathfrak{Q} 18'25	0°24'58	retrograde	3811 Jun 04 13:08	17° \mathfrak{W} 45'54	
minimum elong	3805 Aug 14 19:24	23° \mathfrak{Q} 18'24	0°24'57		3811 Jul 18 03:49	15° \mathfrak{R} \mathfrak{W}	
max. Earth dist.	3805 Aug 16 10:23	23° \mathfrak{Q} 40'13	6.24895 AU	opposition	3811 Aug 04 07:47	12° \mathfrak{W} 52'22	0°-21'-19
morning rise	3805 Aug 28 10:40	26° \mathfrak{Q} 21'01		min. Earth dist.	3811 Aug 05 14:50	12° \mathfrak{W} 42'23	4.18299 AU
	3805 Sep 14 03:12	0° \mathfrak{R}		direct	3811 Oct 04 09:34	7° \mathfrak{W} 55'20	
retrograde	3805 Dec 30 16:15	14° \mathfrak{R} 20'08			3811 Dec 14 01:49	15° \mathfrak{W}	
opposition	3806 Feb 28 14:31	9° \mathfrak{R} 19'25	0°57'30	evening set	3812 Feb 06 18:44	26° \mathfrak{W} 40'16	
min. Earth dist.	3806 Feb 27 21:11	9° \mathfrak{R} 25'12	4.31963 AU	max. Earth dist.	3812 Feb 18 04:11	29° \mathfrak{W} 20'46	6.10805 AU
direct	3806 Apr 30 05:33	4° \mathfrak{R} 17'27					
evening set	3806 Sep 03 20:27	22° \mathfrak{R} 13'09		conjunction	3812 Feb 19 13:13	29° \mathfrak{W} 40'13	0°-30'-49
				minimum elong	3812 Feb 19 13:11	29° \mathfrak{W} 40'12	0°30'50
conjunction	3806 Sep 17 06:33	25° \mathfrak{R} 08'25	0°50'35		3812 Feb 20 22:47	0° \mathfrak{X}	
minimum elong	3806 Sep 17 06:31	25° \mathfrak{R} 08'24	0°50'35	morning rise	3812 Mar 03 08:20	2° \mathfrak{X} 40'52	
max. Earth dist.	3806 Sep 17 20:01	25° \mathfrak{R} 15'46	6.38108 AU	retrograde	3812 Jul 10 02:17	22° \mathfrak{X} 09'18	
morning rise	3806 Sep 30 14:25	28° \mathfrak{R} 02'29		opposition	3812 Sep 08 11:25	17° \mathfrak{X} 13'00	-1°-7'-18
	3806 Oct 09 17:11	0° \mathfrak{A}		min. Earth dist.	3812 Sep 09 01:51	17° \mathfrak{X} 08'17	4.03909 AU
retrograde	3807 Jan 30 03:29	15° \mathfrak{A} 10'27		direct	3812 Nov 07 02:14	12° \mathfrak{X} 18'17	
opposition	3807 Mar 31 10:50	10° \mathfrak{A} 13'26	1°23'52		3813 Mar 05 07:46	0° \mathfrak{Y}	
min. Earth dist.	3807 Mar 31 11:03	10° \mathfrak{A} 13'22	4.42794 AU	evening set	3813 Mar 12 14:00	1° \mathfrak{Y} 43'52	
direct	3807 Jun 01 05:42	5° \mathfrak{A} 10'55					
evening set	3807 Oct 05 18:09	22° \mathfrak{A} 42'30		conjunction	3813 Mar 25 13:15	4° \mathfrak{Y} 51'24	0°-55'-1
				minimum elong	3813 Mar 25 13:14	4° \mathfrak{Y} 51'23	0°55'03
conjunction	3807 Oct 18 21:11	25° \mathfrak{A} 31'57	1°01'02	max. Earth dist.	3813 Mar 25 08:19	4° \mathfrak{Y} 48'25	5.98447 AU
minimum elong	3807 Oct 18 21:10	25° \mathfrak{A} 31'56	1°01'01	morning rise	3813 Apr 07 14:55	8° \mathfrak{Y} 00'21	
max. Earth dist.	3807 Oct 18 05:12	25° \mathfrak{A} 23'19	6.45747 AU	retrograde	3813 Aug 17 05:58	28° \mathfrak{Y} 28'10	
morning rise	3807 Oct 31 21:41	28° \mathfrak{A} 20'05		opposition	3813 Oct 16 05:08	23° \mathfrak{Y} 28'07	-1°-30'-18
	3807 Nov 08 17:23	0° \mathfrak{M}		min. Earth dist.	3813 Oct 15 19:19	23° \mathfrak{Y} 31'23	3.94939 AU
	3808 Feb 23 07:21	15° \mathfrak{M}		direct	3813 Dec 13 13:20	18° \mathfrak{Y} 34'21	
retrograde	3808 Feb 29 03:26	15° \mathfrak{M} 03'13			3814 Mar 13 03:43	0° \mathfrak{B}	
	3808 Mar 05 23:13	15° \mathfrak{R} \mathfrak{M}		evening set	3814 Apr 18 08:55	8° \mathfrak{B} 23'30	
opposition	3808 Apr 29 17:45	10° \mathfrak{M} 09'17	1°26'55				
min. Earth dist.	3808 Apr 30 12:59	10° \mathfrak{M} 03'05	4.46908 AU	conjunction	3814 May 01 15:55	11° \mathfrak{B} 36'47	0°-58'-45
direct	3808 Jul 01 08:25	5° \mathfrak{M} 07'05		minimum elong	3814 May 01 15:56	11° \mathfrak{B} 36'48	0°58'46
	3808 Sep 28 17:28	15° \mathfrak{M}		max. Earth dist.	3814 May 02 21:36	11° \mathfrak{B} 54'49	5.93705 AU
evening set	3808 Nov 04 12:07	22° \mathfrak{M} 31'44		morning rise	3814 May 15 01:52	14° \mathfrak{B} 51'41	
max. Earth dist.	3808 Nov 15 19:28	24° \mathfrak{M} 58'14	6.45998 AU		3814 May 15 15:41	15° \mathfrak{B}	
					3814 Jul 25 02:43	0° \mathfrak{I}	
conjunction	3808 Nov 17 09:28	25° \mathfrak{M} 18'49	0°54'56	retrograde	3814 Sep 24 11:52	5° \mathfrak{I} 36'11	
minimum elong	3808 Nov 17 09:30	25° \mathfrak{M} 18'50	0°54'56	min. Earth dist.	3814 Nov 21 22:15	0° \mathfrak{I} 42'17	3.95087 AU
morning rise	3808 Nov 30 04:14	28° \mathfrak{M} 04'46		opposition	3814 Nov 23 02:29	0° \mathfrak{I} 32'42	-1°-17'-20
	3808 Dec 09 03:39	0° \mathfrak{J}			3814 Nov 27 03:07	30° \mathfrak{R} \mathfrak{B}	
retrograde	3809 Mar 30 12:53	14° \mathfrak{J} 51'47		direct	3815 Jan 19 23:13	25° \mathfrak{B} 37'44	
opposition	3809 May 30 10:08	9° \mathfrak{J} 59'30	1°07'10		3815 Mar 13 07:08	0° \mathfrak{I}	
min. Earth dist.	3809 May 31 17:54	9° \mathfrak{J} 49'22	4.43346 AU	evening set	3815 May 26 02:47	15° \mathfrak{I} 20'44	
direct	3809 Aug 01 03:42	4° \mathfrak{J} 58'24					
evening set	3809 Dec 04 23:08	22° \mathfrak{J} 34'15		conjunction	3815 Jun 08 17:23	18° \mathfrak{I} 35'16	0°-39'-8
max. Earth dist.	3809 Dec 15 15:18	24° \mathfrak{J} 55'15	6.38833 AU	minimum elong	3815 Jun 08 17:25	18° \mathfrak{I} 35'17	0°39'09
				max. Earth dist.	3815 Jun 10 23:02	19° \mathfrak{I} 07'15	5.98675 AU
conjunction	3809 Dec 17 16:53	25° \mathfrak{J} 22'40	0°34'00	morning rise	3815 Jun 22 10:22	21° \mathfrak{I} 50'52	
minimum elong	3809 Dec 17 16:55	25° \mathfrak{J} 22'41	0°34'00		3815 Jul 28 08:48	0° \mathfrak{G}	
morning rise	3809 Dec 30 08:43	28° \mathfrak{J} 10'21		retrograde	3815 Oct 31 01:32	11° \mathfrak{G} 58'59	
	3810 Jan 07 17:30	0° \mathfrak{Z}		min. Earth dist.	3815 Dec 28 01:39	7° \mathfrak{G} 06'29	4.04303 AU
retrograde	3810 May 01 10:47	15° \mathfrak{Z} 29'51		opposition	3815 Dec 29 13:49	6° \mathfrak{G} 54'10	0°-34'-8

direct	3816 Feb 25 20:19	1° $\overline{56}$ '29		conjunction	3821 Dec 21 22:44	29° $\overline{44}$ '48	0°30'06
evening set	3816 Jul 01 08:21	21° $\overline{07}$ '33		minimum elong	3821 Dec 21 22:45	29° $\overline{44}$ '49	0°30'07
					3821 Dec 23 02:09	0° $\overline{0}$	
conjunction	3816 Jul 15 02:06	24° $\overline{17}$ '44	0°-5'-12	morning rise	3822 Jan 03 14:28	2° $\overline{32}$ '58	
minimum elong	3816 Jul 15 02:05	24° $\overline{17}$ '43	0°05'12	retrograde	3822 May 05 23:52	19° $\overline{58}$ '27	
behind sun begin	3816 Jul 14 17:58	24° $\overline{13}$ '03		opposition	3822 Jul 05 22:37	15° $\overline{06}$ '09	0°21'50
behind sun end	3816 Jul 15 10:12	24° $\overline{22}$ '23		min. Earth dist.	3822 Jul 07 11:31	14° $\overline{54}$ '23	4.31202 AU
max. Earth dist.	3816 Jul 17 08:00	24° $\overline{48}$ '51	6.11232 AU	direct	3822 Sep 06 00:38	10° $\overline{07}$ '02	
morning rise	3816 Jul 28 20:55	27° $\overline{28}$ '04		desc. node	3822 Dec 29 12:52	25° $\overline{48}$ '17	
	3816 Aug 09 00:53	0° $\overline{0}$		evening set	3823 Jan 09 11:57	28° $\overline{16}$ '00	
asc. node	3816 Sep 09 23:17	6° $\overline{47}$ '36			3823 Jan 17 02:40	0° \approx	
	3816 Nov 02 18:18	15° $\overline{0}$		max. Earth dist.	3823 Jan 20 04:44	0° \approx 42'21	6.23962 AU
retrograde	3816 Dec 03 03:34	16° $\overline{28}$ '29					
	3817 Jan 02 06:39	15° \overline{R}		conjunction	3823 Jan 22 04:45	1° \approx 09'50	0°-2'-5
opposition	3817 Jan 31 19:32	11° $\overline{24}$ '59	0°18'54	minimum elong	3823 Jan 22 04:44	1° \approx 09'49	0°02'06
min. Earth dist.	3817 Jan 30 13:13	11° $\overline{35}$ '15	4.18788 AU	behind sun begin	3823 Jan 21 20:46	1° \approx 05'17	
direct	3817 Apr 01 05:32	6° $\overline{24}$ '32		behind sun end	3823 Jan 22 12:43	1° \approx 14'22	
	3817 Jun 19 11:35	15° $\overline{0}$		morning rise	3823 Feb 03 20:56	4° \approx 03'41	
evening set	3817 Aug 05 21:40	24° $\overline{53}$ '50			3823 Mar 27 20:29	15° \approx	
				retrograde	3823 Jun 09 11:09	22° \approx 29'57	
conjunction	3817 Aug 19 13:05	27° $\overline{56}$ '12	0°29'09	opposition	3823 Aug 09 04:16	17° \approx 36'07	0°-28'-18
minimum elong	3817 Aug 19 13:03	27° $\overline{56}$ '12	0°29'09	min. Earth dist.	3823 Aug 10 10:35	17° \approx 26'21	4.16223 AU
max. Earth dist.	3817 Aug 21 02:34	28° $\overline{17}$ '08	6.26440 AU		3823 Aug 30 10:53	15° \overline{R}	
	3817 Aug 28 19:10	0° $\overline{0}$		direct	3823 Oct 09 01:57	12° \approx 39'23	
morning rise	3817 Sep 02 03:24	0° $\overline{0}$ 57'48			3823 Nov 17 02:55	15° \approx	
retrograde	3818 Jan 03 23:49	18° $\overline{05}$ '04			3824 Feb 05 00:14	0° \overline{K}	
opposition	3818 Mar 04 22:45	13° $\overline{49}$ '50	1°02'22	evening set	3824 Feb 11 10:43	1° \overline{K} 30'10	
min. Earth dist.	3818 Mar 04 06:52	13° $\overline{55}$ '07	4.33376 AU	max. Earth dist.	3824 Feb 22 22:06	4° \overline{K} 12'34	6.08790 AU
direct	3818 May 04 16:46	8° $\overline{47}$ '46					
evening set	3818 Sep 08 09:27	26° $\overline{40}$ '20		conjunction	3824 Feb 24 05:33	4° \overline{K} 31'10	0°-35'00
				minimum elong	3824 Feb 24 05:31	4° \overline{K} 31'09	0°35'01
conjunction	3818 Sep 21 18:28	29° $\overline{34}$ '44	0°52'57	morning rise	3824 Mar 08 01:32	7° \overline{K} 33'01	
minimum elong	3818 Sep 21 18:26	29° $\overline{34}$ '43	0°52'56	retrograde	3824 Jul 15 05:33	27° \overline{K} 11'11	
max. Earth dist.	3818 Sep 22 03:09	29° $\overline{39}$ '27	6.39275 AU	opposition	3824 Sep 13 14:28	22° \overline{K} 14'22	-1°-12'-16
	3818 Sep 23 16:53	0° \overline{A}		min. Earth dist.	3824 Sep 14 01:08	22° \overline{K} 10'53	4.02149 AU
morning rise	3818 Oct 05 01:29	2° \overline{A} 27'56		direct	3824 Nov 11 23:56	17° \overline{K} 19'50	
retrograde	3819 Feb 03 09:22	19° \overline{A} 31'25			3825 Feb 16 04:09	0° \overline{Y}	
opposition	3819 Apr 04 16:40	14° \overline{A} 34'47	1°25'38	evening set	3825 Mar 17 13:30	6° \overline{Y} 50'35	
min. Earth dist.	3819 Apr 04 19:52	14° \overline{A} 33'44	4.43649 AU				
direct	3819 Jun 05 15:20	9° \overline{A} 32'10		conjunction	3825 Mar 30 13:48	9° \overline{Y} 59'09	0°-56'-56
evening set	3819 Oct 10 02:24	27° \overline{A} 01'55		minimum elong	3825 Mar 30 13:47	9° \overline{Y} 59'09	0°56'56
max. Earth dist.	3819 Oct 22 11:00	29° \overline{A} 41'17	6.46208 AU	max. Earth dist.	3825 Mar 30 14:12	9° \overline{Y} 59'24	5.97114 AU
				morning rise	3825 Apr 12 16:25	13° \overline{Y} 09'11	
conjunction	3819 Oct 23 04:44	29° \overline{A} 50'51	1°01'06		3825 Jul 04 04:42	0° \overline{B}	
minimum elong	3819 Oct 23 04:43	29° \overline{A} 50'50	1°01'07	retrograde	3825 Aug 22 15:12	3° \overline{B} 43'04	
	3819 Oct 23 21:43	0° \overline{M}			3825 Oct 11 17:10	30° \overline{R} \overline{Y}	
morning rise	3819 Nov 05 04:11	2° \overline{M} 38'25		opposition	3825 Oct 21 11:42	28° \overline{Y} 42'30	-1°-30'-43
	3820 Jan 09 11:50	15° \overline{M}		min. Earth dist.	3825 Oct 20 23:52	28° \overline{Y} 46'28	3.94190 AU
retrograde	3820 Mar 04 07:00	19° \overline{M} 20'10		direct	3825 Dec 18 17:48	23° \overline{Y} 48'41	
	3820 Apr 29 14:47	15° \overline{R} \overline{M}			3826 Feb 19 21:50	0° \overline{B}	
opposition	3820 May 03 23:25	14° \overline{M} 26'25	1°25'25	evening set	3826 Apr 23 14:07	13° \overline{B} 39'42	
min. Earth dist.	3820 May 04 19:36	14° \overline{M} 19'56	4.46937 AU		3826 Apr 29 02:57	15° \overline{B}	
direct	3820 Jul 05 14:25	9° \overline{M} 24'17					
	3820 Sep 08 11:26	15° \overline{M}		conjunction	3826 May 06 22:22	16° \overline{B} 53'37	0°-57'-18
evening set	3820 Nov 08 17:55	26° \overline{M} 48'55		minimum elong	3826 May 06 22:23	16° \overline{B} 53'38	0°57'19
max. Earth dist.	3820 Nov 19 22:23	29° \overline{M} 14'05	6.45558 AU	max. Earth dist.	3826 May 08 08:45	17° \overline{B} 14'29	5.93615 AU
				morning rise	3826 May 20 09:33	20° \overline{B} 09'07	
conjunction	3820 Nov 21 14:31	29° \overline{M} 35'53	0°52'47		3826 Jul 02 13:50	0° \overline{II}	
minimum elong	3820 Nov 21 14:32	29° \overline{M} 35'53	0°52'47	retrograde	3826 Sep 29 17:40	10° \overline{II} 52'21	
	3820 Nov 23 10:57	0° \overline{A}		min. Earth dist.	3826 Nov 27 00:36	5° \overline{II} 59'00	3.95697 AU
morning rise	3820 Dec 04 08:43	2° \overline{A} 21'46		opposition	3826 Nov 28 07:13	5° \overline{II} 48'37	-1°-12'-42
retrograde	3821 Apr 03 21:21	19° \overline{A} 10'59		direct	3827 Jan 25 02:54	0° \overline{II} 53'24	
opposition	3821 Jun 03 18:27	14° \overline{A} 18'47	1°02'43	evening set	3827 May 31 09:12	20° \overline{II} 33'57	
min. Earth dist.	3821 Jun 05 04:23	14° \overline{A} 07'58	4.42428 AU				
direct	3821 Aug 05 12:25	9° \overline{A} 17'49		conjunction	3827 Jun 14 00:28	23° \overline{II} 48'14	0°-34'-55
evening set	3821 Dec 09 05:19	26° \overline{A} 56'00		minimum elong	3827 Jun 14 00:30	23° \overline{II} 48'15	0°34'56
max. Earth dist.	3821 Dec 19 19:10	29° \overline{A} 16'13	6.37477 AU	max. Earth dist.	3827 Jun 16 06:44	24° \overline{II} 20'29	5.99925 AU

morning rise	3827 Jun 27 18:15	27° Π 03'33		opposition	3833 Jun 08 00:31	18° \mathcal{Z} 32'22	0°58'03
	3827 Jul 10 08:56	0° \mathfrak{E}		min. Earth dist.	3833 Jun 09 11:05	18° \mathcal{Z} 21'21	4.41210 AU
retrograde	3827 Nov 04 23:29	17° \mathfrak{E} 03'55		direct	3833 Aug 09 16:05	13° \mathcal{Z} 31'36	
min. Earth dist.	3828 Jan 01 23:53	12° \mathfrak{E} 11'33	4.06060 AU		3833 Dec 07 19:41	0° \mathfrak{Z}	
opposition	3828 Jan 03 12:22	11° \mathfrak{E} 59'07	0°-26'-46	evening set	3833 Dec 13 09:25	1° \mathfrak{Z} 13'25	
direct	3828 Mar 01 22:12	7° \mathfrak{E} 01'02		max. Earth dist.	3833 Dec 23 22:18	3° \mathfrak{Z} 33'40	6.35717 AU
evening set	3828 Jul 06 10:41	26° \mathfrak{E} 06'31					
conjunction	3828 Jul 20 04:35	29° \mathfrak{E} 15'45	0°00'-3	conjunction	3833 Dec 26 02:35	4° \mathfrak{Z} 02'48	0°26'07
minimum elong	3828 Jul 20 04:33	29° \mathfrak{E} 15'45	0°00'04	minimum elong	3833 Dec 26 02:36	4° \mathfrak{Z} 02'48	0°26'07
behind sun begin	3828 Jul 19 20:41	29° \mathfrak{E} 11'15		morning rise	3834 Jan 07 18:14	6° \mathfrak{Z} 51'39	
behind sun end	3828 Jul 20 12:26	29° \mathfrak{E} 20'15		retrograde	3834 May 10 14:26	24° \mathfrak{Z} 24'58	
asc. node	3828 Jul 20 19:55	29° \mathfrak{E} 24'34		opposition	3834 Jul 10 11:21	19° \mathfrak{Z} 32'36	0°15'16
max. Earth dist.	3828 Jul 22 10:49	29° \mathfrak{E} 46'55	6.13376 AU	min. Earth dist.	3834 Jul 12 01:27	19° \mathfrak{Z} 20'26	4.28978 AU
	3828 Jul 23 09:35	0° \mathcal{Q}		direct	3834 Sep 10 10:42	14° \mathfrak{Z} 33'46	
morning rise	3828 Aug 02 22:54	2° \mathcal{Q} 24'55		desc. node	3834 Nov 09 16:01	19° \mathfrak{Z} 41'35	
	3828 Oct 03 00:27	15° \mathcal{Q}			3835 Jan 01 08:59	0° \approx	
retrograde	3828 Dec 07 17:53	21° \mathcal{Q} 14'51		evening set	3835 Jan 13 21:19	2° \approx 49'18	
min. Earth dist.	3829 Feb 04 05:16	16° \mathcal{Q} 21'32	4.21102 AU	max. Earth dist.	3835 Jan 24 14:05	5° \approx 16'31	6.21450 AU
opposition	3829 Feb 05 10:14	16° \mathcal{Q} 11'45	0°25'52	conjunction	3835 Jan 26 14:16	5° \approx 44'14	0°-6'-46
	3829 Feb 14 08:59	15° \mathcal{R} \mathcal{Q}		minimum elong	3835 Jan 26 14:15	5° \approx 44'14	0°06'47
direct	3829 Apr 06 00:45	11° \mathcal{Q} 11'03		behind sun begin	3835 Jan 26 06:48	5° \approx 39'57	
	3829 May 26 15:59	15° \mathcal{Q}		behind sun end	3835 Jan 26 21:43	5° \approx 48'30	
evening set	3829 Aug 10 16:50	29° \mathcal{Q} 33'50		morning rise	3835 Feb 08 06:57	8° \approx 39'19	
	3829 Aug 12 16:10	0° \mathfrak{P}			3835 Mar 08 20:30	15° \approx	
conjunction	3829 Aug 24 07:20	2° \mathfrak{P} 34'53	0°33'15	retrograde	3835 Jun 14 08:57	27° \approx 16'56	
minimum elong	3829 Aug 24 07:18	2° \mathfrak{P} 34'52	0°33'15	opposition	3835 Aug 14 01:31	22° \approx 22'46	0°-35'-8
max. Earth dist.	3829 Aug 25 16:51	2° \mathfrak{P} 53'29	6.28731 AU	min. Earth dist.	3835 Aug 15 05:06	22° \approx 13'52	4.13616 AU
morning rise	3829 Sep 06 20:50	5° \mathfrak{P} 35'06		direct	3835 Oct 13 17:00	17° \approx 26'23	
retrograde	3830 Jan 08 05:57	23° \mathfrak{P} 18'08			3836 Jan 19 02:11	0° \mathfrak{H}	
opposition	3830 Mar 09 06:46	18° \mathfrak{P} 18'21	1°06'52	evening set	3836 Feb 16 04:31	6° \mathfrak{H} 25'13	
min. Earth dist.	3830 Mar 08 17:15	18° \mathfrak{P} 22'51	4.35469 AU	max. Earth dist.	3836 Feb 27 21:11	9° \mathfrak{H} 11'36	6.06328 AU
direct	3830 May 09 05:17	13° \mathfrak{P} 16'08		conjunction	3836 Feb 29 00:04	9° \mathfrak{H} 27'35	0°-38'-57
	3830 Sep 07 22:37	0° \mathfrak{A}		minimum elong	3836 Feb 29 00:02	9° \mathfrak{H} 27'34	0°38'58
evening set	3830 Sep 12 20:34	1° \mathfrak{A} 03'19		morning rise	3836 Mar 12 20:48	12° \mathfrak{H} 30'51	
					3836 Jun 11 14:02	0° \mathcal{Y}	
conjunction	3830 Sep 26 04:43	3° \mathfrak{A} 56'38	0°55'00	retrograde	3836 Jul 20 14:59	2° \mathcal{Y} 20'34	
minimum elong	3830 Sep 26 04:41	3° \mathfrak{A} 56'37	0°54'59		3836 Aug 28 20:24	30° \mathcal{R} \mathfrak{H}	
max. Earth dist.	3830 Sep 26 10:48	3° \mathfrak{A} 59'56	6.41013 AU	opposition	3836 Sep 18 20:17	27° \mathfrak{H} 23'18	-1°-16'-44
morning rise	3830 Oct 09 10:25	6° \mathfrak{A} 48'39		min. Earth dist.	3836 Sep 19 04:32	27° \mathfrak{H} 20'35	4.00071 AU
retrograde	3831 Feb 07 11:14	23° \mathfrak{A} 46'17		direct	3836 Nov 17 01:37	22° \mathfrak{H} 28'59	
opposition	3831 Apr 08 20:35	18° \mathfrak{A} 50'07	1°26'54		3837 Jan 27 02:08	0° \mathcal{Y}	
min. Earth dist.	3831 Apr 09 01:58	18° \mathfrak{A} 48'22	4.44914 AU	evening set	3837 Mar 22 16:15	12° \mathcal{Y} 06'00	
direct	3831 Jun 09 22:22	13° \mathfrak{A} 47'34					
	3831 Oct 08 12:08	0° \mathcal{M}		conjunction	3837 Apr 04 17:39	15° \mathcal{Y} 15'47	0°-58'-23
evening set	3831 Oct 14 07:56	1° \mathcal{M} 14'20		minimum elong	3837 Apr 04 17:38	15° \mathcal{Y} 15'46	0°58'24
max. Earth dist.	3831 Oct 26 10:13	3° \mathcal{M} 50'16	6.46887 AU	max. Earth dist.	3837 Apr 04 23:17	15° \mathcal{Y} 19'12	5.95624 AU
				morning rise	3837 Apr 17 21:35	18° \mathcal{Y} 27'04	
conjunction	3831 Oct 27 09:09	4° \mathcal{M} 02'37	1°00'52		3837 Jun 08 08:24	0° \mathfrak{B}	
minimum elong	3831 Oct 27 09:09	4° \mathcal{M} 02'37	1°00'52	retrograde	3837 Aug 28 02:07	9° \mathfrak{B} 07'07	
morning rise	3831 Nov 09 07:51	6° \mathcal{M} 49'37		opposition	3837 Oct 26 21:22	4° \mathfrak{B} 06'00	-1°-30'-20
	3831 Dec 19 15:11	15° \mathcal{M}		min. Earth dist.	3837 Oct 26 05:19	4° \mathfrak{B} 11'23	3.93495 AU
retrograde	3832 Mar 08 10:10	23° \mathcal{M} 29'49			3837 Dec 02 08:28	30° \mathcal{R} \mathcal{Y}	
opposition	3832 May 08 02:40	18° \mathcal{M} 36'23	1°23'30	direct	3837 Dec 23 23:02	29° \mathcal{Y} 12'09	
min. Earth dist.	3832 May 09 02:15	18° \mathcal{M} 28'49	4.46988 AU		3838 Jan 14 14:21	0° \mathfrak{B}	
	3832 Jun 08 13:58	15° \mathcal{R} \mathcal{M}			3838 Apr 11 19:20	15° \mathfrak{B}	
direct	3832 Jul 09 19:53	13° \mathcal{M} 34'19		evening set	3838 Apr 28 22:48	19° \mathfrak{B} 04'31	
	3832 Aug 10 06:53	15° \mathcal{M}					
	3832 Nov 08 06:29	0° \mathcal{Z}		conjunction	3838 May 12 08:05	22° \mathfrak{B} 18'53	0°-55'-19
evening set	3832 Nov 12 20:43	0° \mathcal{Z} 59'11		minimum elong	3838 May 12 08:07	22° \mathfrak{B} 18'54	0°55'19
max. Earth dist.	3832 Nov 23 22:18	3° \mathcal{Z} 23'02	6.44962 AU	max. Earth dist.	3838 May 13 22:07	22° \mathfrak{B} 41'56	5.93762 AU
				morning rise	3838 May 25 20:32	25° \mathfrak{B} 34'50	
conjunction	3832 Nov 25 16:53	3° \mathcal{Z} 46'11	0°50'26		3838 Jun 13 13:13	0° \mathfrak{H}	
minimum elong	3832 Nov 25 16:54	3° \mathcal{Z} 46'11	0°50'26	retrograde	3838 Oct 05 00:06	16° \mathfrak{H} 15'11	
morning rise	3832 Dec 08 10:28	6° \mathcal{Z} 32'06		min. Earth dist.	3838 Dec 02 05:00	11° \mathfrak{H} 22'11	3.96656 AU
retrograde	3833 Apr 08 02:18	23° \mathcal{Z} 24'29		opposition	3838 Dec 03 13:53	11° \mathfrak{H} 11'00	-1°-7'-21

direct	3839 Jan 30 10:55	6° Π 15'21		morning rise	3844 Dec 12 15:08	10° \mathcal{Z} 49'34	
evening set	3839 Jun 05 17:31	25° Π 51'49		retrograde	3845 Apr 12 13:32	27° \mathcal{Z} 46'20	
				opposition	3845 Jun 12 10:41	22° \mathcal{Z} 54'16	0°52'54
conjunction	3839 Jun 19 09:36	29° Π 05'39	0°-30'-20	min. Earth dist.	3845 Jun 13 23:21	22° \mathcal{Z} 42'35	4.39710 AU
minimum elong	3839 Jun 19 09:38	29° Π 05'40	0°30'22	direct	3845 Aug 14 01:48	17° \mathcal{Z} 53'42	
max. Earth dist.	3839 Jun 21 18:59	29° Π 39'36	6.01593 AU		3845 Nov 21 08:46	0° \mathcal{Z}	
	3839 Jun 23 05:28	0° \mathcal{Z}		evening set	3845 Dec 17 17:17	5° \mathcal{Z} 39'51	
morning rise	3839 Jul 03 03:39	2° \mathcal{Z} 20'18		max. Earth dist.	3845 Dec 28 05:40	8° \mathcal{Z} 00'27	6.33787 AU
retrograde	3839 Nov 09 22:40	22° \mathcal{Z} 10'51					
min. Earth dist.	3840 Jan 06 23:23	17° \mathcal{Z} 18'17	4.08203 AU	conjunction	3845 Dec 30 10:24	8° \mathcal{Z} 29'56	0°21'50
opposition	3840 Jan 08 11:16	17° \mathcal{Z} 06'03	0°-19'-8	minimum elong	3845 Dec 30 10:25	8° \mathcal{Z} 29'56	0°21'50
direct	3840 Mar 07 00:57	12° \mathcal{Z} 07'31		morning rise	3846 Jan 12 01:59	11° \mathcal{Z} 19'33	
asc. node	3840 May 29 20:39	21° \mathcal{Z} 52'21		retrograde	3846 May 15 06:51	29° \mathcal{Z} 01'14	
	3840 Jul 06 16:38	0° Ω		opposition	3846 Jul 15 04:19	24° \mathcal{Z} 08'43	0°08'19
evening set	3840 Jul 11 13:17	1° Ω 06'06		min. Earth dist.	3846 Jul 16 16:56	23° \mathcal{Z} 57'01	4.26748 AU
				direct	3846 Sep 14 22:34	19° \mathcal{Z} 10'15	
conjunction	3840 Jul 25 06:51	4° Ω 14'07	0°05'07	desc. node	3846 Sep 19 02:47	19° \mathcal{Z} 11'52	
minimum elong	3840 Jul 25 06:50	4° Ω 14'07	0°05'07		3846 Dec 15 01:59	0° \approx	
behind sun begin	3840 Jul 24 22:43	4° Ω 09'30		evening set	3847 Jan 18 10:53	7° \approx 32'17	
behind sun end	3840 Jul 25 14:56	4° Ω 18'43		max. Earth dist.	3847 Jan 29 06:26	10° \approx 01'53	6.19110 AU
max. Earth dist.	3840 Jul 27 10:59	4° Ω 43'54	6.15765 AU				
morning rise	3840 Aug 08 00:51	7° Ω 22'00		conjunction	3847 Jan 31 04:00	10° \approx 28'16	0°-11'-36
	3840 Sep 12 04:13	15° Ω		minimum elong	3847 Jan 31 03:59	10° \approx 28'15	0°11'37
retrograde	3840 Dec 12 05:39	26° Ω 00'48		behind sun begin	3847 Jan 30 22:13	10° \approx 24'56	
min. Earth dist.	3841 Feb 08 20:53	21° Ω 07'21	4.23503 AU	behind sun end	3847 Jan 31 09:46	10° \approx 31'35	
opposition	3841 Feb 10 00:34	20° Ω 58'01	0°32'40	morning rise	3847 Feb 12 21:05	13° \approx 24'30	
direct	3841 Apr 10 19:15	15° Ω 56'59			3847 Feb 19 19:57	15° \approx	
	3841 Jul 26 22:48	0° \mathfrak{M}			3847 May 12 08:27	0° \mathfrak{H}	
evening set	3841 Aug 15 11:22	4° \mathfrak{M} 13'12		retrograde	3847 Jun 19 13:05	2° \mathfrak{H} 12'58	
					3847 Jul 28 00:36	30° \mathfrak{R} \approx	
conjunction	3841 Aug 29 01:05	7° \mathfrak{M} 12'56	0°37'09	opposition	3847 Aug 19 03:10	27° \approx 18'30	0°-42'-1
minimum elong	3841 Aug 29 01:03	7° \mathfrak{M} 12'55	0°37'09	min. Earth dist.	3847 Aug 20 05:13	27° \approx 10'04	4.11352 AU
max. Earth dist.	3841 Aug 30 07:06	7° \mathfrak{M} 29'32	6.30955 AU	direct	3847 Oct 18 14:45	22° \approx 22'30	
morning rise	3841 Sep 11 13:25	10° \mathfrak{M} 11'45			3847 Dec 30 11:24	0° \mathfrak{H}	
retrograde	3842 Jan 12 13:07	27° \mathfrak{M} 46'11		evening set	3848 Feb 21 01:37	11° \mathfrak{H} 27'55	
opposition	3842 Mar 13 14:53	22° \mathfrak{M} 46'57	1°11'02				
min. Earth dist.	3842 Mar 13 04:27	22° \mathfrak{M} 50'24	4.37352 AU	conjunction	3848 Mar 04 21:50	14° \mathfrak{H} 31'26	0°-42'-46
direct	3842 May 13 18:49	17° \mathfrak{M} 44'37		minimum elong	3848 Mar 04 21:48	14° \mathfrak{H} 31'25	0°42'47
	3842 Aug 22 06:37	0° \mathfrak{L}		max. Earth dist.	3848 Mar 03 23:09	14° \mathfrak{H} 17'53	6.04368 AU
evening set	3842 Sep 17 08:10	5° \mathfrak{L} 27'17		morning rise	3848 Mar 17 19:27	17° \mathfrak{H} 35'58	
					3848 May 13 18:52	0° \mathfrak{Y}	
conjunction	3842 Sep 30 15:12	8° \mathfrak{L} 19'36	0°56'48	retrograde	3848 Jul 26 00:05	7° \mathfrak{Y} 35'00	
minimum elong	3842 Sep 30 15:10	8° \mathfrak{L} 19'36	0°56'49	opposition	3848 Sep 24 04:14	2° \mathfrak{Y} 37'16	-1°-20'-44
max. Earth dist.	3842 Sep 30 16:05	8° \mathfrak{L} 20'05	6.42405 AU	min. Earth dist.	3848 Sep 24 08:07	2° \mathfrak{Y} 35'59	3.98660 AU
morning rise	3842 Oct 13 19:56	11° \mathfrak{L} 10'40			3848 Oct 15 04:18	30° \mathfrak{R} \mathfrak{H}	
retrograde	3843 Feb 11 14:49	28° \mathfrak{L} 03'45		direct	3848 Nov 22 03:42	27° \mathfrak{H} 43'14	
opposition	3843 Apr 13 01:42	23° \mathfrak{L} 07'59	1°27'48		3848 Dec 29 14:32	0° \mathfrak{Y}	
min. Earth dist.	3843 Apr 13 10:02	23° \mathfrak{L} 05'17	4.45762 AU	evening set	3849 Mar 27 20:39	17° \mathfrak{Y} 23'56	
direct	3843 Jun 14 06:31	18° \mathfrak{L} 05'24					
	3843 Sep 22 01:39	0° \mathfrak{M}		conjunction	3849 Apr 09 22:57	20° \mathfrak{Y} 34'29	0°-59'-26
evening set	3843 Oct 18 14:47	5° \mathfrak{M} 30'34		minimum elong	3849 Apr 09 22:56	20° \mathfrak{Y} 34'29	0°59'27
				max. Earth dist.	3849 Apr 10 09:25	20° \mathfrak{Y} 40'51	5.94897 AU
conjunction	3843 Oct 31 15:19	8° \mathfrak{M} 18'26	1°00'20	morning rise	3849 Apr 23 04:04	23° \mathfrak{Y} 46'38	
minimum elong	3843 Oct 31 15:19	8° \mathfrak{M} 18'27	1°00'20		3849 May 19 15:34	0° \mathcal{B}	
max. Earth dist.	3843 Oct 30 14:05	8° \mathfrak{M} 04'51	6.47130 AU	retrograde	3849 Sep 02 10:56	14° \mathcal{B} 29'25	
morning rise	3843 Nov 13 13:00	11° \mathfrak{M} 05'01		min. Earth dist.	3849 Oct 31 10:43	9° \mathcal{B} 34'17	3.93555 AU
	3843 Dec 02 03:43	15° \mathfrak{M}		opposition	3849 Nov 01 06:05	9° \mathcal{B} 27'46	-1°-29'-13
retrograde	3844 Mar 12 14:21	27° \mathfrak{M} 45'06		direct	3849 Dec 29 06:30	4° \mathcal{B} 33'48	
opposition	3844 May 12 08:31	22° \mathfrak{M} 51'57	1°21'09		3850 Mar 24 03:34	15° \mathcal{B}	
min. Earth dist.	3844 May 13 09:45	22° \mathfrak{M} 43'52	4.46625 AU	evening set	3850 May 04 06:04	24° \mathcal{B} 24'46	
direct	3844 Jul 14 02:09	17° \mathfrak{M} 50'03					
	3844 Oct 23 00:03	0° \mathcal{Z}		conjunction	3850 May 17 16:34	27° \mathcal{B} 39'17	0°-52'-56
evening set	3844 Nov 17 02:22	5° \mathcal{Z} 16'17		minimum elong	3850 May 17 16:36	27° \mathcal{B} 39'18	0°52'57
max. Earth dist.	3844 Nov 27 23:52	7° \mathcal{Z} 38'21	6.44006 AU	max. Earth dist.	3850 May 19 12:04	28° \mathcal{B} 05'34	5.94602 AU
					3850 May 27 09:49	0° Π	
conjunction	3844 Nov 29 21:49	8° \mathcal{Z} 03'24	0°47'45	morning rise	3850 May 31 05:50	0° Π 55'14	
minimum elong	3844 Nov 29 21:51	8° \mathcal{Z} 03'25	0°47'45	retrograde	3850 Oct 10 04:52	21° Π 29'52	

min. Earth dist.	3850 Dec 07 07:40	16° Π 36'55	3.98171 AU		3856 Apr 22 16:13	30° \mathbb{R} \mathbb{M}	
opposition	3850 Dec 08 17:19	16° Π 25'28	-1°-1'-38	opposition	3856 May 16 14:40	27° \mathbb{M} 08'29	1°18'25
direct	3851 Feb 04 16:11	11° Π 29'29		min. Earth dist.	3856 May 17 18:03	26° \mathbb{M} 59'43	4.45846 AU
	3851 Jun 06 15:07	0° \mathfrak{E}		direct	3856 Jul 18 08:53	22° \mathbb{M} 06'42	
evening set	3851 Jun 10 22:16	1° \mathfrak{E} 00'15			3856 Oct 04 17:42	0° \mathfrak{A}	
				evening set	3856 Nov 21 08:10	9° \mathfrak{A} 35'30	
conjunction	3851 Jun 24 14:43	4° \mathfrak{E} 13'21	0°-25'-42	max. Earth dist.	3856 Dec 02 05:07	11° \mathfrak{A} 57'40	6.42738 AU
minimum elong	3851 Jun 24 14:45	4° \mathfrak{E} 13'22	0°25'42				
max. Earth dist.	3851 Jun 27 00:11	4° \mathfrak{E} 47'10	6.03607 AU	conjunction	3856 Dec 04 03:22	12° \mathfrak{A} 22'58	0°44'48
morning rise	3851 Jul 08 09:12	7° \mathfrak{E} 27'11		minimum elong	3856 Dec 04 03:23	12° \mathfrak{A} 22'58	0°44'49
retrograde	3851 Nov 14 15:06	27° \mathfrak{E} 07'12		morning rise	3856 Dec 16 20:09	15° \mathfrak{A} 09'28	
min. Earth dist.	3852 Jan 11 17:54	22° \mathfrak{E} 14'48	4.10491 AU		3857 Mar 09 17:27	0° \mathfrak{E}	
opposition	3852 Jan 13 05:52	22° \mathfrak{E} 02'33	0°-11'-40	retrograde	3857 Apr 16 23:29	2° \mathfrak{E} 11'31	
direct	3852 Mar 11 22:26	17° \mathfrak{E} 03'38			3857 May 25 14:38	30° \mathbb{R} \mathfrak{A}	
asc. node	3852 Apr 09 07:06	18° \mathfrak{E} 21'55		opposition	3857 Jun 16 21:53	27° \mathfrak{A} 19'30	0°47'27
	3852 Jun 19 15:01	0° \mathbb{Q}		min. Earth dist.	3857 Jun 18 10:28	27° \mathfrak{A} 07'51	4.38037 AU
evening set	3852 Jul 16 11:34	5° \mathbb{Q} 55'21		direct	3857 Aug 18 10:21	22° \mathfrak{A} 19'14	
					3857 Nov 02 16:26	0° \mathfrak{E}	
conjunction	3852 Jul 30 04:50	9° \mathbb{Q} 02'11	0°10'00	evening set	3857 Dec 22 02:07	10° \mathfrak{E} 09'59	
minimum elong	3852 Jul 30 04:49	9° \mathbb{Q} 02'10	0°10'00	max. Earth dist.	3858 Jan 01 14:16	12° \mathfrak{E} 31'09	6.31838 AU
behind sun begin	3852 Jul 29 22:09	8° \mathbb{Q} 58'24					
behind sun end	3852 Jul 30 11:29	9° \mathbb{Q} 05'56		conjunction	3858 Jan 03 18:58	13° \mathfrak{E} 00'46	0°17'24
max. Earth dist.	3852 Aug 01 05:51	9° \mathbb{Q} 30'02	6.18132 AU	minimum elong	3858 Jan 03 18:59	13° \mathfrak{E} 00'47	0°17'24
morning rise	3852 Aug 12 22:13	12° \mathbb{Q} 08'44		morning rise	3858 Jan 16 10:45	15° \mathfrak{E} 51'13	
	3852 Aug 25 17:43	15° \mathbb{Q}			3858 Mar 30 22:16	0° \approx	
	3852 Nov 27 01:51	0° \mathbb{P}		retrograde	3858 May 20 02:53	3° \approx 41'21	
retrograde	3852 Dec 16 16:07	0° \mathbb{P} 37'14			3858 Jul 10 13:18	30° \mathbb{R} \mathfrak{E}	
	3853 Jan 05 01:43	30° \mathbb{R} \mathbb{Q}		opposition	3858 Jul 19 22:57	28° \mathfrak{E} 48'37	0°01'14
min. Earth dist.	3853 Feb 13 10:39	25° \mathbb{Q} 43'12	4.25724 AU	min. Earth dist.	3858 Jul 21 11:05	28° \mathfrak{E} 37'03	4.24637 AU
opposition	3853 Feb 14 11:11	25° \mathbb{Q} 34'57	0°39'01	desc. node	3858 Jul 29 16:40	27° \mathfrak{E} 34'31	
direct	3853 Apr 15 11:47	20° \mathbb{Q} 33'41		direct	3858 Sep 19 14:41	23° \mathfrak{E} 50'27	
	3853 Jul 09 01:31	0° \mathbb{P}			3858 Nov 24 16:54	0° \approx	
evening set	3853 Aug 20 02:17	8° \mathbb{P} 44'18		evening set	3859 Jan 23 01:03	12° \approx 18'07	
				max. Earth dist.	3859 Feb 02 23:51	14° \approx 50'17	6.17024 AU
conjunction	3853 Sep 02 15:13	11° \mathbb{P} 42'56	0°40'43		3859 Feb 03 16:34	15° \approx	
minimum elong	3853 Sep 02 15:11	11° \mathbb{P} 42'54	0°40'43				
max. Earth dist.	3853 Sep 03 17:20	11° \mathbb{P} 57'18	6.32855 AU	conjunction	3859 Feb 04 18:31	15° \approx 15'04	0°-16'-23
morning rise	3853 Sep 16 02:35	14° \mathbb{P} 40'33		minimum elong	3859 Feb 04 18:30	15° \approx 15'04	0°16'24
	3853 Dec 10 11:11	0° \mathfrak{A}		morning rise	3859 Feb 17 11:58	18° \approx 12'21	
retrograde	3854 Jan 16 16:14	2° \mathfrak{A} 07'56			3859 Apr 14 03:16	0° \mathfrak{H}	
	3854 Feb 22 20:15	30° \mathbb{R} \mathbb{P}		retrograde	3859 Jun 24 15:12	7° \mathfrak{H} 10'23	
opposition	3854 Mar 17 20:19	27° \mathbb{P} 09'13	1°14'42	opposition	3859 Aug 24 04:53	2° \mathfrak{H} 15'30	0°-48'-36
min. Earth dist.	3854 Mar 17 12:01	27° \mathbb{P} 11'57	4.38823 AU	min. Earth dist.	3859 Aug 25 03:37	2° \mathfrak{H} 08'08	4.09470 AU
direct	3854 May 18 03:23	22° \mathbb{P} 06'48			3859 Sep 11 07:06	30° \mathbb{R} \approx	
	3854 Aug 03 21:26	0° \mathfrak{A}		direct	3859 Oct 23 10:47	27° \approx 19'50	
evening set	3854 Sep 21 17:06	9° \mathfrak{A} 46'28			3859 Dec 03 20:02	0° \mathfrak{H}	
				evening set	3860 Feb 25 22:44	16° \mathfrak{H} 30'14	
conjunction	3854 Oct 04 23:15	12° \mathfrak{A} 38'03	0°58'16				
minimum elong	3854 Oct 04 23:14	12° \mathfrak{A} 38'02	0°58'16	conjunction	3860 Mar 09 19:27	19° \mathfrak{H} 34'39	0°-46'-14
max. Earth dist.	3854 Oct 04 20:08	12° \mathfrak{A} 36'22	6.43348 AU	minimum elong	3860 Mar 09 19:25	19° \mathfrak{H} 34'38	0°46'14
morning rise	3854 Oct 18 02:55	15° \mathfrak{A} 28'20		max. Earth dist.	3860 Mar 09 00:42	19° \mathfrak{H} 23'26	6.02840 AU
	3855 Jan 07 15:22	0° \mathbb{M}		morning rise	3860 Mar 22 17:57	22° \mathfrak{H} 40'14	
retrograde	3855 Feb 15 18:20	2° \mathbb{M} 18'36			3860 Apr 23 14:47	0° \mathbb{Y}	
	3855 Mar 26 23:24	30° \mathbb{R} \mathfrak{A}		retrograde	3860 Jul 31 07:25	12° \mathbb{Y} 46'40	
opposition	3855 Apr 17 05:49	27° \mathfrak{A} 23'20	1°28'15	opposition	3860 Sep 29 10:39	7° \mathbb{Y} 48'18	-1°-24'-1
min. Earth dist.	3855 Apr 17 17:10	27° \mathfrak{A} 19'40	4.46140 AU	min. Earth dist.	3860 Sep 29 11:14	7° \mathbb{Y} 48'07	3.97636 AU
direct	3855 Jun 18 13:46	22° \mathfrak{A} 20'51		direct	3860 Nov 27 06:38	2° \mathbb{Y} 54'21	
	3855 Sep 03 17:00	0° \mathbb{M}		evening set	3861 Apr 01 23:18	22° \mathbb{Y} 37'17	
evening set	3855 Oct 22 20:40	9° \mathbb{M} 45'48					
				conjunction	3861 Apr 15 02:47	25° \mathbb{Y} 48'33	0°-59'-58
conjunction	3855 Nov 04 20:21	12° \mathbb{M} 33'27	0°59'29	minimum elong	3861 Apr 15 02:47	25° \mathbb{Y} 48'33	1°00'00
minimum elong	3855 Nov 04 20:22	12° \mathbb{M} 33'28	0°59'29	max. Earth dist.	3861 Apr 15 19:22	25° \mathbb{Y} 58'37	5.94472 AU
max. Earth dist.	3855 Nov 03 14:24	12° \mathbb{M} 17'18	6.46909 AU	morning rise	3861 Apr 28 08:54	29° \mathbb{Y} 01'22	
	3855 Nov 16 04:24	15° \mathbb{M}			3861 May 02 10:24	0° \mathfrak{B}	
morning rise	3855 Nov 17 17:28	15° \mathbb{M} 19'53			3861 Jul 13 12:27	15° \mathfrak{B}	
	3856 Feb 09 04:27	0° \mathfrak{A}		retrograde	3861 Sep 07 19:07	19° \mathfrak{B} 45'27	
retrograde	3856 Mar 16 20:24	2° \mathfrak{A} 01'25			3861 Nov 04 10:44	15° \mathbb{R} \mathfrak{B}	

opposition	3861 Nov 06 12:15	14°♄43'20	-1°-27'-23	opposition	3867 Apr 21 11:31	1°♍41'52	1°28'15
min. Earth dist.	3861 Nov 05 14:52	14°♄50'32	3.93794 AU	min. Earth dist.	3867 Apr 22 00:28	1°♍37'41	4.46395 AU
direct	3862 Jan 03 11:31	9°♄49'11			3867 May 04 20:59	30°♊♄	
	3862 Mar 01 18:23	15°♄		direct	3867 Jun 22 20:35	26°♄39'30	
evening set	3862 May 09 11:14	29°♄38'22			3867 Aug 10 21:23	0°♍	
	3862 May 10 23:20	0°♄		evening set	3867 Oct 27 04:05	14°♍04'31	
					3867 Oct 31 11:29	15°♍	
conjunction	3862 May 22 22:35	2°♄52'54	0°-50'-10	max. Earth dist.	3867 Nov 07 19:37	16°♍34'59	6.46705 AU
minimum elong	3862 May 22 22:37	2°♄52'56	0°50'12				
max. Earth dist.	3862 May 24 19:58	3°♄20'14	5.95455 AU	conjunction	3867 Nov 09 03:04	16°♍51'59	0°58'19
morning rise	3862 Jun 05 12:58	6°♄08'54		minimum elong	3867 Nov 09 03:05	16°♍51'59	0°58'20
retrograde	3862 Oct 15 04:17	26°♄37'50		morning rise	3867 Nov 21 23:22	19°♍38'13	
min. Earth dist.	3862 Dec 12 06:29	21°♄45'17	3.99550 AU		3868 Jan 13 11:36	0°♄	
opposition	3862 Dec 13 17:52	21°♄33'14	0°-55'-33	retrograde	3868 Mar 21 03:30	6°♄21'07	
direct	3863 Feb 09 17:17	16°♄36'50		opposition	3868 May 20 22:41	1°♄28'30	1°15'14
	3863 May 20 11:43	0°♄		min. Earth dist.	3868 May 22 03:37	1°♄19'15	4.45221 AU
evening set	3863 Jun 16 01:18	6°♄02'54			3868 Jun 01 15:37	30°♊♍	
				direct	3868 Jul 22 17:28	26°♍27'01	
conjunction	3863 Jun 29 18:13	9°♄15'23	0°-20'-56		3868 Sep 11 06:56	0°♄	
minimum elong	3863 Jun 29 18:15	9°♄15'23	0°20'57	evening set	3868 Nov 25 15:11	13°♄57'37	
max. Earth dist.	3863 Jul 02 03:01	9°♄48'39	6.05382 AU	max. Earth dist.	3868 Dec 06 09:26	16°♄18'45	6.41750 AU
morning rise	3863 Jul 13 12:52	12°♄28'26					
	3863 Oct 14 23:15	0°♄		conjunction	3868 Dec 08 09:46	16°♄45'15	0°41'37
retrograde	3863 Nov 19 08:34	1°♄59'06		minimum elong	3868 Dec 08 09:47	16°♄45'16	0°41'37
	3863 Dec 24 11:16	30°♊♄		morning rise	3868 Dec 21 02:22	19°♄32'04	
opposition	3864 Jan 17 22:59	26°♄54'39	0°-4'-15		3869 Feb 11 04:43	0°♄	
min. Earth dist.	3864 Jan 16 13:02	27°♄06'12	4.12454 AU	retrograde	3869 Apr 21 11:50	6°♄38'37	
asc. node	3864 Feb 18 18:38	23°♄07'52		opposition	3869 Jun 21 10:17	1°♄46'36	0°41'43
direct	3864 Mar 16 20:19	21°♄55'21		min. Earth dist.	3869 Jun 22 23:03	1°♄34'53	4.36752 AU
	3864 May 31 12:43	0°♄			3869 Jul 05 16:22	30°♊♄	
evening set	3864 Jul 21 09:04	10°♄41'34		direct	3869 Aug 22 21:25	26°♄46'38	
					3869 Oct 09 09:31	0°♄	
conjunction	3864 Aug 04 02:06	13°♄47'24	0°14'47	evening set	3869 Dec 26 11:02	14°♄40'35	
minimum elong	3864 Aug 04 02:05	13°♄47'23	0°14'48	max. Earth dist.	3870 Jan 06 01:17	17°♄03'22	6.30373 AU
behind sun begin	3864 Aug 03 23:07	13°♄45'43					
behind sun end	3864 Aug 04 05:04	13°♄49'04		conjunction	3870 Jan 08 03:53	17°♄31'54	0°12'56
max. Earth dist.	3864 Aug 06 01:26	14°♄14'10	6.20117 AU	minimum elong	3870 Jan 08 03:54	17°♄31'54	0°12'57
	3864 Aug 09 10:32	15°♄		behind sun begin	3870 Jan 07 22:56	17°♄29'08	
morning rise	3864 Aug 17 18:53	16°♄52'49		behind sun end	3870 Jan 08 08:51	17°♄34'41	
	3864 Oct 22 10:23	0°♄		morning rise	3870 Jan 20 19:29	20°♄22'55	
retrograde	3864 Dec 21 00:54	5°♄12'28			3870 Mar 07 13:01	0°♄	
opposition	3865 Feb 18 21:39	0°♄10'40	0°45'07	retrograde	3870 May 24 19:54	8°♄19'48	
min. Earth dist.	3865 Feb 17 22:21	0°♄18'28	4.27568 AU	desc. node	3870 Jun 09 15:20	7°♄56'31	
	3865 Feb 20 05:28	30°♊♄		opposition	3870 Jul 24 16:40	3°♄26'54	0°-5'-42
direct	3865 Apr 20 01:31	25°♄09'11		min. Earth dist.	3870 Jul 26 03:10	3°♄15'52	4.23092 AU
	3865 Jun 17 07:27	0°♄			3870 Aug 23 12:26	30°♊♄	
evening set	3865 Aug 24 17:33	13°♄15'29		direct	3870 Sep 24 04:30	28°♄29'09	
					3870 Oct 25 16:00	0°♄	
conjunction	3865 Sep 07 05:34	16°♄13'06	0°44'04		3871 Jan 18 19:42	15°♄	
minimum elong	3865 Sep 07 05:32	16°♄13'05	0°44'04	evening set	3871 Jan 27 14:04	17°♄00'39	
max. Earth dist.	3865 Sep 08 02:44	16°♄24'44	6.34414 AU	max. Earth dist.	3871 Feb 07 14:41	19°♄34'26	6.15519 AU
morning rise	3865 Sep 20 16:00	19°♄09'40					
	3865 Nov 13 20:39	0°♄		conjunction	3871 Feb 09 07:32	19°♄58'15	0°-20'-56
retrograde	3866 Jan 20 23:12	6°♄31'13		minimum elong	3871 Feb 09 07:31	19°♄58'15	0°20'57
opposition	3866 Mar 22 03:01	1°♄33'03	1°17'59	morning rise	3871 Feb 22 01:30	22°♄56'21	
min. Earth dist.	3866 Mar 21 22:14	1°♄34'38	4.40005 AU		3871 Mar 25 13:58	0°♄	
	3866 Apr 03 02:26	30°♊♄		retrograde	3871 Jun 29 15:14	12°♄02'04	
direct	3866 May 22 14:53	26°♄30'36		opposition	3871 Aug 29 04:01	7°♄06'45	0°-54'-36
	3866 Jul 11 05:51	0°♄		min. Earth dist.	3871 Aug 30 00:20	7°♄00'09	4.08116 AU
evening set	3866 Sep 26 03:20	14°♄08'01		direct	3871 Oct 28 06:08	2°♄11'20	
				evening set	3872 Mar 01 16:32	21°♄25'03	
conjunction	3866 Oct 09 08:38	16°♄58'59	0°59'25				
minimum elong	3866 Oct 09 08:37	16°♄58'59	0°59'25	conjunction	3872 Mar 14 14:02	24°♄30'15	0°-49'-13
max. Earth dist.	3866 Oct 09 01:58	16°♄55'24	6.44066 AU	minimum elong	3872 Mar 14 14:00	24°♄30'14	0°49'14
morning rise	3866 Oct 22 11:19	19°♄48'38		max. Earth dist.	3872 Mar 14 00:12	24°♄21'56	6.01768 AU
	3866 Dec 12 22:38	0°♄		morning rise	3872 Mar 27 13:11	27°♄36'37	
retrograde	3867 Feb 19 22:29	6°♄36'42			3872 Apr 06 15:33	0°♄	

retrograde	3872 Aug 05 10:51	17° Υ 48'41		retrograde	3878 Jan 25 03:18	10° Ω 53'05	
opposition	3872 Oct 04 12:39	12° Υ 49'52	-1°-26'-30	opposition	3878 Mar 26 08:54	5° Ω 55'21	1°20'44
min. Earth dist.	3872 Oct 04 11:06	12° Υ 50'23	3.96973 AU	min. Earth dist.	3878 Mar 26 05:17	5° Ω 56'33	4.41019 AU
direct	3872 Dec 02 05:31	7° Υ 56'01		direct	3878 May 26 22:52	0° Ω 52'50	
evening set	3873 Apr 06 21:57	27° Υ 40'16		evening set	3878 Sep 30 12:41	18° Ω 28'07	
	3873 Apr 16 12:35	0° Υ					
conjunction	3873 Apr 20 02:15	0° Υ 52'02	-1°00'-2	conjunction	3878 Oct 13 16:57	21° Ω 18'26	1°00'12
minimum elong	3873 Apr 20 02:15	0° Υ 52'02	1°00'02	minimum elong	3878 Oct 13 16:56	21° Ω 18'26	1°00'11
max. Earth dist.	3873 Apr 20 21:03	1° Υ 03'27	5.94261 AU	max. Earth dist.	3878 Oct 13 06:22	21° Ω 12'43	6.44728 AU
morning rise	3873 May 03 09:36	4° Υ 05'28		morning rise	3878 Oct 26 18:45	24° Ω 07'27	
	3873 Jun 20 15:06	15° Υ			3878 Nov 24 01:22	0° Ω	
retrograde	3873 Sep 12 19:39	24° Υ 50'02		retrograde	3879 Feb 24 03:56	10° Ω 53'15	
opposition	3873 Nov 11 12:46	19° Υ 47'31	-1°-24'-57	opposition	3879 Apr 25 17:00	5° Ω 58'44	1°27'43
min. Earth dist.	3873 Nov 10 12:45	19° Υ 55'37	3.94079 AU	min. Earth dist.	3879 Apr 26 08:52	5° Ω 53'37	4.46656 AU
	3873 Dec 31 08:10	15° Υ		direct	3879 Jun 27 05:14	0° Ω 56'22	
direct	3874 Jan 08 10:22	14° Υ 53'08			3879 Oct 15 13:53	15° Ω	
	3874 Jan 16 12:57	15° Υ		evening set	3879 Oct 31 10:15	18° Ω 20'49	
	3874 Apr 24 14:07	0° Υ		max. Earth dist.	3879 Nov 11 22:19	20° Ω 49'34	6.46514 AU
evening set	3874 May 14 11:52	4° Υ 40'59					
conjunction	3874 May 28 00:17	7° Υ 55'39	0°-47'-10	conjunction	3879 Nov 13 08:32	21° Ω 08'04	0°56'50
minimum elong	3874 May 28 00:19	7° Υ 55'40	0°47'11	minimum elong	3879 Nov 13 08:34	21° Ω 08'05	0°56'50
max. Earth dist.	3874 May 29 23:38	8° Υ 24'07	5.96216 AU	morning rise	3879 Nov 26 04:10	23° Ω 54'07	
morning rise	3874 Jun 10 15:27	11° Υ 11'39			3879 Dec 25 11:56	0° Υ	
	3874 Sep 18 13:24	0° Υ		retrograde	3880 Mar 25 09:10	10° Υ 38'08	
retrograde	3874 Oct 20 01:12	1° Υ 35'39		opposition	3880 May 25 05:45	5° Υ 45'35	1°11'38
	3874 Nov 20 07:14	30° Υ		min. Earth dist.	3880 May 26 11:31	5° Υ 36'04	4.44572 AU
min. Earth dist.	3874 Dec 17 03:12	26° Υ 42'45	4.00683 AU	direct	3880 Jul 26 23:57	0° Υ 44'11	
opposition	3874 Dec 18 13:53	26° Υ 30'56	0°-49'-22	evening set	3880 Nov 29 20:51	18° Υ 16'27	
direct	3875 Feb 14 15:46	21° Υ 34'09		max. Earth dist.	3880 Dec 10 14:50	20° Υ 37'47	6.40667 AU
	3875 May 01 17:02	0° Υ					
evening set	3875 Jun 21 00:23	10° Υ 56'48		conjunction	3880 Dec 12 15:06	21° Υ 04'20	0°38'12
conjunction	3875 Jul 04 17:49	14° Υ 08'50	0°-16'-14	minimum elong	3880 Dec 12 15:07	21° Υ 04'21	0°38'12
minimum elong	3875 Jul 04 17:50	14° Υ 08'50	0°16'15	morning rise	3880 Dec 25 07:14	23° Υ 51'25	
max. Earth dist.	3875 Jul 07 03:01	14° Υ 42'12	6.06800 AU		3881 Jan 23 07:06	0° Υ	
morning rise	3875 Jul 18 12:38	17° Υ 21'19		retrograde	3881 Apr 25 22:58	11° Υ 02'44	
	3875 Sep 16 15:31	0° Ω		opposition	3881 Jun 25 21:43	6° Υ 10'41	0°35'43
retrograde	3875 Nov 23 22:18	6° Ω 44'12		min. Earth dist.	3881 Jun 27 11:13	5° Υ 58'45	4.35264 AU
asc. node	3876 Jan 01 01:13	4° Ω 25'28		direct	3881 Aug 27 07:00	1° Υ 10'58	
min. Earth dist.	3876 Jan 21 03:16	1° Ω 51'28	4.14016 AU	evening set	3881 Dec 30 19:11	19° Υ 08'49	
opposition	3876 Jan 22 12:57	1° Ω 40'03	0°02'52	max. Earth dist.	3882 Jan 10 08:10	21° Υ 31'33	6.28574 AU
	3876 Feb 04 01:58	30° Υ					
direct	3876 Mar 21 12:48	26° Υ 40'25		conjunction	3882 Jan 12 11:49	22° Υ 00'47	0°08'21
	3876 May 07 01:59	0° Ω		minimum elong	3882 Jan 12 11:49	22° Υ 00'47	0°08'21
	3876 Jul 24 11:43	15° Ω		behind sun begin	3882 Jan 12 04:47	21° Υ 56'49	
evening set	3876 Jul 26 04:17	15° Ω 22'42		behind sun end	3882 Jan 12 18:51	22° Υ 04'45	
conjunction	3876 Aug 08 20:50	18° Ω 27'40	0°19'19	morning rise	3882 Jan 25 03:41	24° Υ 52'36	
minimum elong	3876 Aug 08 20:49	18° Ω 27'39	0°19'18		3882 Feb 17 10:04	0° \approx	
max. Earth dist.	3876 Aug 10 15:59	18° Ω 51'59	6.21704 AU	desc. node	3882 Apr 20 00:24	10° \approx 36'17	
morning rise	3876 Aug 22 13:11	21° Ω 32'09		retrograde	3882 May 29 14:55	12° \approx 57'45	
	3876 Oct 01 09:19	0° Υ		opposition	3882 Jul 29 10:41	8° \approx 04'33	0°-12'-45
retrograde	3876 Dec 25 10:13	9° Υ 44'29		min. Earth dist.	3882 Jul 30 19:51	7° \approx 53'54	4.21080 AU
min. Earth dist.	3877 Feb 22 10:05	4° Υ 49'59	4.29052 AU	direct	3882 Sep 28 18:25	3° \approx 07'02	
opposition	3877 Feb 23 06:39	4° Υ 43'06	0°50'44		3883 Jan 02 01:48	15° \approx	
	3877 Apr 10 17:22	30° Υ		evening set	3883 Feb 01 03:32	21° \approx 44'11	
direct	3877 Apr 24 15:21	29° Ω 41'22		max. Earth dist.	3883 Feb 12 08:15	24° \approx 20'59	6.13471 AU
	3877 May 08 14:49	0° Υ					
evening set	3877 Aug 29 07:31	17° Υ 44'21		conjunction	3883 Feb 13 21:29	24° \approx 42'48	0°-25'-26
conjunction	3877 Sep 11 18:53	20° Υ 41'08	0°47'02	minimum elong	3883 Feb 13 21:28	24° \approx 42'47	0°25'27
minimum elong	3877 Sep 11 18:51	20° Υ 41'07	0°47'03	morning rise	3883 Feb 26 15:49	27° \approx 41'57	
max. Earth dist.	3877 Sep 12 14:03	20° Υ 51'37	6.35700 AU		3883 Mar 08 14:41	0° Υ	
morning rise	3877 Sep 25 04:14	23° Υ 36'45		retrograde	3883 Jul 04 18:08	16° Υ 57'30	
	3877 Oct 25 14:05	0° Ω		opposition	3883 Sep 03 05:00	12° Υ 01'49	-1°00'-27
				min. Earth dist.	3883 Sep 03 23:21	11° Υ 55'50	4.06212 AU
				direct	3883 Nov 02 02:05	7° Υ 06'43	
				evening set	3884 Mar 06 13:32	26° Υ 25'59	
				conjunction	3884 Mar 19 11:39	29° Υ 32'13	0°-51'-58

minimum elong	3884 Mar 19 11:37	29° κ 32'12	0°52'00	morning rise	3889 Sep 29 15:43	28° η 02'53	
max. Earth dist.	3884 Mar 19 00:22	29° κ 25'26	6.00170 AU		3889 Oct 08 17:29	0° ♄	
	3884 Mar 21 09:48	0° γ		retrograde	3890 Jan 29 07:40	15° ♄ 12'11	
morning rise	3884 Apr 01 11:57	2° γ 39'47		opposition	3890 Mar 30 13:55	10° ♄ 14'55	1°23'00
retrograde	3884 Aug 10 17:02	22° γ 59'28		min. Earth dist.	3890 Mar 30 13:42	10° ♄ 15'00	4.42609 AU
opposition	3884 Oct 09 18:10	18° γ 00'08	-1°-28'-30	direct	3890 May 31 08:34	5° ♄ 12'20	
min. Earth dist.	3884 Oct 09 12:42	18° γ 01'57	3.95868 AU	evening set	3890 Oct 04 19:35	22° ♄ 43'41	
direct	3884 Dec 07 06:44	13° γ 06'20					
	3885 Mar 30 23:01	0° ♄		conjunction	3890 Oct 17 23:02	25° ♄ 33'13	1°00'39
evening set	3885 Apr 12 01:16	2° ♄ 53'41		minimum elong	3890 Oct 17 23:01	25° ♄ 33'13	1°00'40
				max. Earth dist.	3890 Oct 17 09:53	25° ♄ 26'08	6.45812 AU
conjunction	3885 Apr 25 06:51	6° ♄ 06'17	0°-59'-38	morning rise	3890 Oct 30 23:40	28° ♄ 21'23	
minimum elong	3885 Apr 25 06:51	6° ♄ 06'17	0°59'39		3890 Nov 07 17:00	0° ♄	
max. Earth dist.	3885 Apr 26 06:55	6° ♄ 20'55	5.93760 AU		3891 Feb 21 15:57	15° ♄	
morning rise	3885 May 08 15:16	9° ♄ 20'29		retrograde	3891 Feb 28 04:25	15° ♄ 04'02	
	3885 Jun 01 15:25	15° ♄			3891 Mar 06 16:45	15° ♄	
	3885 Sep 10 02:42	0° ♄		opposition	3891 Apr 29 19:49	10° ♄ 09'51	1°26'44
retrograde	3885 Sep 18 03:22	0° ♄ 06'26		min. Earth dist.	3891 Apr 30 13:18	10° ♄ 04'12	4.47177 AU
	3885 Sep 26 02:48	30° ♄		direct	3891 Jul 01 09:04	5° ♄ 07'32	
opposition	3885 Nov 16 18:24	25° ♄ 03'30	-1°-21'-46		3891 Sep 28 19:15	15° ♄	
min. Earth dist.	3885 Nov 15 17:01	25° ♄ 12'06	3.94246 AU	evening set	3891 Nov 04 13:27	22° ♄ 30'56	
direct	3886 Jan 13 15:37	20° ♄ 08'55		max. Earth dist.	3891 Nov 15 21:25	24° ♄ 57'36	6.46415 AU
	3886 Apr 05 20:35	0° ♄					
evening set	3886 May 19 17:57	9° ♄ 55'42		conjunction	3891 Nov 17 10:55	25° ♄ 17'55	0°55'05
				minimum elong	3891 Nov 17 10:56	25° ♄ 17'55	0°55'05
conjunction	3886 Jun 02 07:23	13° ♄ 10'29	0°-43'-39	morning rise	3891 Nov 30 05:55	28° ♄ 03'46	
minimum elong	3886 Jun 02 07:25	13° ♄ 10'30	0°43'39		3891 Dec 09 07:33	0° ♄	
max. Earth dist.	3886 Jun 04 10:20	13° ♄ 41'00	5.97038 AU	retrograde	3892 Mar 29 13:59	14° ♄ 49'05	
morning rise	3886 Jun 15 23:27	16° ♄ 26'29		opposition	3892 May 29 10:22	9° ♄ 56'43	1°07'45
	3886 Aug 18 01:47	0° ♄		min. Earth dist.	3892 May 30 19:02	9° ♄ 46'18	4.43837 AU
retrograde	3886 Oct 25 01:59	6° ♄ 44'37		direct	3892 Jul 31 05:17	4° ♄ 55'26	
min. Earth dist.	3886 Dec 22 02:12	1° ♄ 52'12	4.02091 AU	evening set	3892 Dec 03 23:38	22° ♄ 29'50	
opposition	3886 Dec 23 14:20	1° ♄ 39'54	0°-42'-32	max. Earth dist.	3892 Dec 14 14:15	24° ♄ 49'49	6.39329 AU
	3887 Jan 05 01:49	30° ♄					
direct	3887 Feb 19 17:07	26° ♄ 42'49		conjunction	3892 Dec 16 17:31	25° ♄ 18'06	0°34'40
	3887 Apr 06 03:24	0° ♄		minimum elong	3892 Dec 16 17:32	25° ♄ 18'07	0°34'40
evening set	3887 Jun 26 04:23	16° ♄ 00'55		morning rise	3892 Dec 29 09:32	28° ♄ 05'39	
					3893 Jan 07 03:13	0° ♄	
conjunction	3887 Jul 09 21:54	19° ♄ 12'11	0°-11'-12	retrograde	3893 Apr 30 08:44	15° ♄ 23'03	
minimum elong	3887 Jul 09 21:55	19° ♄ 12'11	0°11'14	opposition	3893 Jun 30 07:23	10° ♄ 30'53	0°29'39
behind sun begin	3887 Jul 09 15:50	19° ♄ 08'40		min. Earth dist.	3893 Jul 01 20:55	10° ♄ 18'55	4.33387 AU
behind sun end	3887 Jul 10 04:01	19° ♄ 15'43		direct	3893 Aug 31 13:03	5° ♄ 31'20	
max. Earth dist.	3887 Jul 12 05:38	19° ♄ 44'33	6.08673 AU	evening set	3894 Jan 04 01:51	23° ♄ 34'39	
morning rise	3887 Jul 23 16:51	22° ♄ 23'48		max. Earth dist.	3894 Jan 14 16:26	25° ♄ 58'58	6.26304 AU
	3887 Aug 27 01:20	0° ♄					
asc. node	3887 Nov 10 22:11	11° ♄ 06'05		conjunction	3894 Jan 16 18:38	26° ♄ 27'32	0°03'48
retrograde	3887 Nov 28 14:47	11° ♄ 36'55		minimum elong	3894 Jan 16 18:39	26° ♄ 27'33	0°03'48
min. Earth dist.	3888 Jan 25 21:30	6° ♄ 44'02	4.16169 AU	behind sun begin	3894 Jan 16 10:46	26° ♄ 23'05	
opposition	3888 Jan 27 05:57	6° ♄ 33'01	0°10'14	behind sun end	3894 Jan 17 02:32	26° ♄ 32'01	
direct	3888 Mar 26 10:40	1° ♄ 33'03		morning rise	3894 Jan 29 10:36	29° ♄ 20'20	
	3888 Jul 07 11:35	15° ♄			3894 Feb 01 08:48	0° ♄	
evening set	3888 Jul 31 01:41	20° ♄ 09'10		desc. node	3894 Mar 01 10:13	6° ♄ 07'02	
					3894 Apr 22 19:46	15° ♄	
conjunction	3888 Aug 13 17:50	23° ♄ 12'56	0°23'51	retrograde	3894 Jun 03 10:33	17° ♄ 35'38	
minimum elong	3888 Aug 13 17:49	23° ♄ 12'55	0°23'50		3894 Jul 15 12:40	15° ♄	
max. Earth dist.	3888 Aug 15 12:06	23° ♄ 36'38	6.23984 AU	opposition	3894 Aug 03 04:20	12° ♄ 42'13	0°-19'-40
morning rise	3888 Aug 27 09:11	26° ♄ 16'02		min. Earth dist.	3894 Aug 04 13:15	12° ♄ 31'38	4.18558 AU
	3888 Sep 13 10:20	0° ♄		direct	3894 Oct 03 07:31	7° ♄ 45'00	
retrograde	3888 Dec 29 18:43	14° ♄ 18'36			3894 Dec 13 23:14	15° ♄	
opposition	3889 Feb 27 16:35	9° ♄ 17'43	0°56'06	evening set	3895 Feb 05 17:41	26° ♄ 29'47	
min. Earth dist.	3889 Feb 26 21:23	9° ♄ 24'07	4.31267 AU	max. Earth dist.	3895 Feb 16 23:51	29° ♄ 08'22	6.10909 AU
direct	3889 Apr 29 05:12	4° ♄ 15'52					
evening set	3889 Sep 02 21:10	22° ♄ 12'59		conjunction	3895 Feb 18 12:01	29° ♄ 29'40	0°-29'-45
				minimum elong	3895 Feb 18 12:00	29° ♄ 29'39	0°29'45
conjunction	3889 Sep 16 07:21	25° ♄ 08'30	0°49'46		3895 Feb 20 15:32	0° ♄	
minimum elong	3889 Sep 16 07:19	25° ♄ 08'29	0°49'47	morning rise	3895 Mar 03 07:15	2° ♄ 30'16	
max. Earth dist.	3889 Sep 16 21:26	25° ♄ 16'12	6.37666 AU	retrograde	3895 Jul 09 21:26	21° ♄ 57'44	

opposition	3895 Sep 08 07:28	17° ✕ 01'33	-1°-5'-54	direct	3901 May 04 19:48	8° mp 49'29	
min. Earth dist.	3895 Sep 08 22:07	16° ✕ 56'46	4.03843 AU	evening set	3901 Sep 08 10:57	26° mp 41'21	
direct	3895 Nov 06 22:34	12° ✕ 06'41					
	3896 Mar 05 00:25	0° Y		conjunction	3901 Sep 21 20:18	29° mp 35'47	0°52'16
evening set	3896 Mar 11 12:43	1° Y 33'17		minimum elong	3901 Sep 21 20:16	29° mp 35'46	0°52'16
				max. Earth dist.	3901 Sep 22 07:24	29° mp 41'49	6.39400 AU
conjunction	3896 Mar 24 11:56	4° Y 40'52	0°-54'-20		3901 Sep 23 16:47	0° Δ	
minimum elong	3896 Mar 24 11:54	4° Y 40'51	0°54'21	morning rise	3901 Oct 05 03:21	2° Δ 28'59	
max. Earth dist.	3896 Mar 24 06:39	4° Y 37'41	5.98230 AU	retrograde	3902 Feb 03 11:48	19° Δ 32'18	
morning rise	3896 Apr 06 13:14	7° Y 49'47		opposition	3902 Apr 04 19:46	14° Δ 35'33	1°24'55
retrograde	3896 Aug 16 04:54	28° Y 18'15		min. Earth dist.	3902 Apr 04 21:52	14° Δ 34'52	4.43858 AU
opposition	3896 Oct 15 02:45	23° Y 18'21	-1°-29'-46	direct	3902 Jun 05 17:33	9° Δ 33'00	
min. Earth dist.	3896 Oct 14 18:38	23° Y 21'04	3.94579 AU	evening set	3902 Oct 10 03:49	27° Δ 01'42	
direct	3896 Dec 12 12:20	18° Y 24'35		max. Earth dist.	3902 Oct 22 11:38	29° Δ 40'36	6.46474 AU
	3897 Mar 12 18:57	0° 8					
evening set	3897 Apr 17 08:07	8° 8 15'25		conjunction	3902 Oct 23 06:11	29° Δ 50'35	1°00'50
				minimum elong	3902 Oct 23 06:10	29° Δ 50'35	1°00'51
conjunction	3897 Apr 30 14:55	11° 8 28'50	0°-58'-42		3902 Oct 23 23:40	0° ml	
minimum elong	3897 Apr 30 14:56	11° 8 28'51	0°58'44	morning rise	3902 Nov 05 06:03	2° ml 38'11	
max. Earth dist.	3897 May 01 20:22	11° 8 46'44	5.93249 AU		3903 Jan 09 15:48	15° ml	
morning rise	3897 May 14 00:42	14° 8 43'52		retrograde	3903 Mar 05 09:59	19° ml 19'17	
	3897 May 15 03:29	15° 8			3903 Apr 30 13:41	15° Rml	
retrograde	3897 Jul 24 17:29	0° II		opposition	3903 May 05 01:21	14° ml 25'27	1°25'21
min. Earth dist.	3897 Sep 23 11:54	5° II 30'13		min. Earth dist.	3903 May 05 22:13	14° ml 18'44	4.47230 AU
opposition	3897 Nov 20 21:35	0° II 36'36	3.94596 AU	direct	3903 Jul 06 16:53	9° ml 23'13	
	3897 Nov 22 02:23	0° II 26'51	-1°-17'-47		3903 Sep 09 16:00	15° ml	
direct	3897 Nov 25 09:47	30° R8		evening set	3903 Nov 09 19:01	26° ml 46'59	
	3898 Jan 18 21:53	25° 8 32'00		max. Earth dist.	3903 Nov 21 00:11	29° ml 12'22	6.45850 AU
evening set	3898 Mar 12 21:04	0° II					
	3898 May 25 03:07	15° II 16'41		conjunction	3903 Nov 22 16:00	29° ml 33'58	0°53'02
conjunction	3898 Jun 07 17:21	18° II 31'19	0°-39'-41	minimum elong	3903 Nov 22 16:01	29° ml 33'59	0°53'01
minimum elong	3898 Jun 07 17:23	18° II 31'20	0°39'42		3903 Nov 24 16:00	0° Δ	
max. Earth dist.	3898 Jun 09 22:02	19° II 02'47	5.98186 AU	morning rise	3903 Dec 05 10:20	2° Δ 19'49	
morning rise	3898 Jun 21 10:17	21° II 47'06		retrograde	3904 Apr 03 21:04	19° Δ 08'05	
	3898 Jul 27 14:35	0° ☿		opposition	3904 Jun 03 18:40	14° Δ 15'51	1°03'24
retrograde	3898 Oct 30 03:03	11° ☿ 57'26		min. Earth dist.	3904 Jun 05 03:53	14° Δ 05'15	4.42699 AU
min. Earth dist.	3898 Dec 27 03:22	7° ☿ 05'03	4.03863 AU	direct	3904 Aug 05 11:25	9° Δ 14'48	
opposition	3898 Dec 28 16:05	6° ☿ 52'32	0°-35'-15	evening set	3904 Dec 09 06:28	26° Δ 52'38	
direct	3899 Feb 24 22:32	1° ☿ 54'56		max. Earth dist.	3904 Dec 19 20:11	29° Δ 12'40	6.37700 AU
evening set	3899 Jul 01 09:14	21° ☿ 06'53		conjunction	3904 Dec 22 00:00	29° Δ 41'24	0°30'48
				minimum elong	3904 Dec 22 00:02	29° Δ 41'25	0°30'49
conjunction	3899 Jul 15 03:03	24° ☿ 17'12	0°-6'-3		3904 Dec 23 09:33	0° ☿	
minimum elong	3899 Jul 15 03:02	24° ☿ 17'12	0°06'04	morning rise	3905 Jan 03 15:51	2° ☿ 29'32	
behind sun begin	3899 Jul 14 19:05	24° ☿ 12'38		retrograde	3905 May 06 01:00	19° ☿ 54'06	
behind sun end	3899 Jul 15 10:59	24° ☿ 21'46		opposition	3905 Jul 05 21:58	15° ☿ 01'55	0°23'07
max. Earth dist.	3899 Jul 17 11:33	24° ☿ 49'52	6.10893 AU	min. Earth dist.	3905 Jul 07 12:34	14° ☿ 49'36	4.31350 AU
morning rise	3899 Jul 28 21:38	27° ☿ 27'38		direct	3905 Sep 06 01:16	10° ☿ 02'42	
	3899 Aug 09 02:15	0° ♈		evening set	3906 Jan 09 13:04	28° ☿ 11'54	
asc. node	3899 Sep 19 20:27	8° ♈ 40'43		desc. node	3906 Jan 09 21:52	28° ☿ 16'53	
	3899 Nov 02 16:29	15° ♈			3906 Jan 17 10:56	0° ≈	
retrograde	3899 Dec 03 07:32	16° ♈ 29'39		max. Earth dist.	3906 Jan 20 03:42	0° ≈ 37'02	6.24022 AU
	3900 Jan 02 14:59	15° R♈					
opposition	3900 Jan 31 23:15	11° ♈ 26'02	0°17'34	conjunction	3906 Jan 22 05:57	1° ≈ 05'46	0°-1'-5
min. Earth dist.	3900 Jan 30 16:05	11° ♈ 36'35	4.18568 AU	minimum elong	3906 Jan 22 05:56	1° ≈ 05'45	0°01'06
direct	3900 Apr 01 08:24	6° ♈ 25'44		behind sun begin	3906 Jan 21 21:57	1° ≈ 01'13	
	3900 Jun 19 11:04	15° ♈		behind sun end	3906 Jan 22 13:55	1° ≈ 10'18	
evening set	3900 Aug 05 23:12	24° ♈ 54'55		morning rise	3906 Feb 03 22:18	3° ≈ 59'39	
					3906 Mar 28 06:54	15° ≈	
conjunction	3900 Aug 19 14:31	27° ♈ 57'19	0°28'16	retrograde	3906 Jun 09 09:34	22° ≈ 25'21	
minimum elong	3900 Aug 19 14:29	27° ♈ 57'18	0°28'16	opposition	3906 Aug 09 03:03	17° ≈ 31'38	0°-26'-48
max. Earth dist.	3900 Aug 21 04:26	28° ♈ 18'29	6.26335 AU	min. Earth dist.	3906 Aug 10 09:09	17° ≈ 21'56	4.16207 AU
	3900 Aug 28 18:41	0° mp			3906 Aug 29 17:35	15° R≈	
morning rise	3900 Sep 02 05:08	0° mp 59'03		direct	3906 Oct 09 00:11	12° ≈ 34'50	
retrograde	3901 Jan 04 02:55	18° mp 51'58			3906 Nov 17 17:59	15° ≈	
min. Earth dist.	3901 Mar 04 09:59	13° mp 57'04	4.33385 AU		3907 Feb 05 07:52	0° ✕	
opposition	3901 Mar 05 02:34	13° mp 51'32	1°01'12	evening set	3907 Feb 11 12:09	1° ✕ 26'34	

max. Earth dist.	3907 Feb 22 23:48	4° ✕ 09'07	6.08714 AU	minimum elong	3912 Aug 24 07:16	2° ⌢ 33'03	0°32'21
conjunction	3907 Feb 24 07:03	4° ✕ 27'38	0°-34'-4	max. Earth dist.	3912 Aug 25 17:42	2° ⌢ 52'11	6.28498 AU
minimum elong	3907 Feb 24 07:01	4° ✕ 27'36	0°34'05	morning rise	3912 Sep 06 20:53	5° ⌢ 33'27	
morning rise	3907 Mar 09 02:51	7° ✕ 29'28		retrograde	3913 Jan 08 09:15	23° ⌢ 17'54	
retrograde	3907 Jul 16 06:47	27° ✕ 07'29		opposition	3913 Mar 09 09:32	18° ⌢ 18'00	1°05'46
opposition	3907 Sep 14 13:52	22° ✕ 10'54	-1°-11'-5	min. Earth dist.	3913 Mar 08 20:04	18° ⌢ 22'28	4.35195 AU
min. Earth dist.	3907 Sep 15 02:03	22° ✕ 06'55	4.02031 AU	direct	3913 May 09 07:50	13° ⌢ 15'50	
direct	3907 Nov 13 01:05	17° ✕ 16'22		evening set	3913 Sep 07 23:22	0° ⌢	
	3908 Feb 17 10:37	0° ✕			3913 Sep 12 21:37	1° ⌢ 03'31	
evening set	3908 Mar 17 15:06	6° ✕ 48'05		conjunction	3913 Sep 26 05:56	3° ⌢ 57'02	0°54'25
				minimum elong	3913 Sep 26 05:54	3° ⌢ 57'01	0°54'25
conjunction	3908 Mar 30 15:14	9° ✕ 56'39	0°-56'-22	max. Earth dist.	3913 Sep 26 11:41	4° ⌢ 00'10	6.40709 AU
minimum elong	3908 Mar 30 15:12	9° ✕ 56'38	0°56'23	morning rise	3913 Oct 09 12:05	6° ⌢ 49'20	
max. Earth dist.	3908 Mar 30 14:53	9° ✕ 56'27	5.96990 AU	retrograde	3914 Feb 07 14:37	23° ⌢ 48'19	
morning rise	3908 Apr 12 17:43	13° ✕ 06'40		opposition	3914 Apr 08 23:54	18° ⌢ 51'59	1°26'22
	3908 Jul 04 12:15	0° ✕		min. Earth dist.	3914 Apr 09 05:01	18° ⌢ 50'19	4.44621 AU
retrograde	3908 Aug 22 15:04	3° ✕ 40'33		direct	3914 Jun 10 00:42	13° ⌢ 49'23	
	3908 Oct 11 10:06	30° ✕			3914 Oct 08 09:41	0° ⌢	
opposition	3908 Oct 21 12:04	28° ✕ 40'08	-1°-30'-19	evening set	3914 Oct 14 10:18	1° ⌢ 16'54	
min. Earth dist.	3908 Oct 20 23:33	28° ✕ 44'19	3.94101 AU				
direct	3908 Dec 18 17:10	23° ✕ 46'24		conjunction	3914 Oct 27 11:59	4° ⌢ 05'25	1°00'42
	3909 Feb 20 04:00	0° ✕		minimum elong	3914 Oct 27 12:00	4° ⌢ 05'25	1°00'42
evening set	3909 Apr 23 15:22	13° ✕ 37'42		max. Earth dist.	3914 Oct 26 15:02	3° ⌢ 54'08	6.46643 AU
	3909 Apr 29 07:29	15° ✕		morning rise	3914 Nov 09 10:51	6° ⌢ 52'37	
					3914 Dec 19 11:30	15° ⌢	
conjunction	3909 May 06 23:11	16° ✕ 51'29	0°-57'-20	retrograde	3915 Mar 09 13:26	23° ⌢ 33'40	
minimum elong	3909 May 06 23:13	16° ✕ 51'29	0°57'22	opposition	3915 May 09 06:13	18° ⌢ 40'09	1°23'35
max. Earth dist.	3909 May 08 08:30	17° ✕ 11'42	5.93562 AU	min. Earth dist.	3915 May 10 04:46	18° ⌢ 32'55	4.46819 AU
morning rise	3909 May 20 10:09	20° ✕ 06'52			3915 Jun 10 10:23	15° ⌢	
	3909 Jul 02 18:21	0° ✕		direct	3915 Jul 10 22:15	13° ⌢ 38'05	
retrograde	3909 Sep 29 17:35	10° ✕ 50'12			3915 Aug 10 16:14	15° ⌢	
min. Earth dist.	3909 Nov 27 01:33	5° ✕ 56'53	3.95661 AU		3915 Nov 09 02:13	0° ✕	
opposition	3909 Nov 28 08:23	5° ✕ 46'24	-1°-13'-14	evening set	3915 Nov 14 00:37	1° ✕ 03'32	
direct	3910 Jan 25 05:05	0° ✕ 51'12		max. Earth dist.	3915 Nov 25 01:40	3° ✕ 27'08	6.44887 AU
evening set	3910 May 31 09:28	20° ✕ 31'21		conjunction	3915 Nov 26 20:54	3° ✕ 50'38	0°50'42
				minimum elong	3915 Nov 26 20:55	3° ✕ 50'39	0°50'42
conjunction	3910 Jun 14 00:35	23° ✕ 45'32	0°-35'-32	morning rise	3915 Dec 09 14:55	6° ✕ 36'43	
minimum elong	3910 Jun 14 00:37	23° ✕ 45'33	0°35'33	retrograde	3916 Apr 08 07:36	23° ✕ 29'07	
max. Earth dist.	3910 Jun 16 08:36	24° ✕ 18'50	5.99896 AU	opposition	3916 Jun 08 04:04	18° ✕ 36'59	0°58'43
morning rise	3910 Jun 27 17:54	27° ✕ 00'41		min. Earth dist.	3916 Jun 09 15:18	18° ✕ 25'45	4.41243 AU
	3910 Jul 10 13:37	0° ✕		direct	3916 Aug 09 20:37	13° ✕ 36'07	
retrograde	3910 Nov 05 01:32	17° ✕ 01'26			3916 Dec 07 15:38	0° ✕	
min. Earth dist.	3911 Jan 02 01:49	12° ✕ 08'54	4.06006 AU	evening set	3916 Dec 13 13:55	1° ✕ 18'05	
opposition	3911 Jan 03 14:03	11° ✕ 56'33	0°-27'-59	max. Earth dist.	3916 Dec 24 03:21	3° ✕ 38'34	6.35869 AU
direct	3911 Mar 02 23:51	6° ✕ 58'34					
evening set	3911 Jul 07 10:19	26° ✕ 03'34		conjunction	3916 Dec 26 07:23	4° ✕ 07'30	0°26'45
				minimum elong	3916 Dec 26 07:24	4° ✕ 07'31	0°26'45
conjunction	3911 Jul 21 03:55	29° ✕ 12'45	0°-1'00	morning rise	3917 Jan 07 23:07	6° ✕ 56'21	
minimum elong	3911 Jul 21 03:54	29° ✕ 12'44	0°01'02	retrograde	3917 May 10 16:07	24° ✕ 28'37	
behind sun begin	3911 Jul 20 19:30	29° ✕ 07'56		opposition	3917 Jul 10 14:02	19° ✕ 36'16	0°16'24
behind sun end	3911 Jul 21 12:17	29° ✕ 17'32		min. Earth dist.	3917 Jul 12 03:00	19° ✕ 24'28	4.29270 AU
max. Earth dist.	3911 Jul 23 10:02	29° ✕ 43'50	6.13253 AU	direct	3917 Sep 10 12:41	14° ✕ 37'24	
	3911 Jul 24 14:10	0° ✕		desc. node	3917 Nov 19 10:42	21° ✕ 20'54	
asc. node	3911 Aug 01 04:16	1° ✕ 44'18			3918 Jan 01 07:35	0° ✕	
morning rise	3911 Aug 03 22:19	2° ✕ 21'58		evening set	3918 Jan 14 01:41	2° ✕ 52'19	
	3911 Oct 04 06:09	15° ✕		max. Earth dist.	3918 Jan 24 19:08	5° ✕ 19'47	6.21869 AU
retrograde	3911 Dec 08 18:16	21° ✕ 12'57		conjunction	3918 Jan 26 18:36	5° ✕ 47'05	0°-5'-56
min. Earth dist.	3912 Feb 05 06:34	16° ✕ 19'43	4.20920 AU	minimum elong	3918 Jan 26 18:36	5° ✕ 47'05	0°05'56
opposition	3912 Feb 06 12:17	16° ✕ 09'41	0°24'29	behind sun begin	3918 Jan 26 10:59	5° ✕ 42'43	
	3912 Feb 15 04:45	15° ✕		behind sun end	3918 Jan 27 02:13	5° ✕ 51'26	
direct	3912 Apr 06 01:25	11° ✕ 09'01		morning rise	3918 Feb 08 11:15	8° ✕ 41'59	
	3912 May 26 22:31	15° ✕			3918 Mar 08 20:31	15° ✕	
evening set	3912 Aug 10 16:36	29° ✕ 31'53		retrograde	3918 Jun 14 11:21	27° ✕ 17'22	
	3912 Aug 12 19:30	0° ✕		opposition	3918 Aug 14 02:54	22° ✕ 23'19	0°-33'-48
conjunction	3912 Aug 24 07:18	2° ⌢ 33'04	0°32'21				

min. Earth dist.	3918 Aug 15 07:39	22° ≈ 14'02	4.14133 AU		3924 Jul 27 08:42	0° ⊙	
direct	3918 Oct 13 20:51	17° ≈ 26'51		evening set	3924 Aug 15 09:38	4° ⊙ 07'22	
	3919 Jan 19 06:00	0° ⊙					
evening set	3919 Feb 16 07:22	6° ⊙ 24'12		conjunction	3924 Aug 28 23:37	7° ⊙ 07'32	0°36'14
max. Earth dist.	3919 Feb 27 23:02	9° ⊙ 09'47	6.06903 AU	minimum elong	3924 Aug 28 23:35	7° ⊙ 07'31	0°36'14
				max. Earth dist.	3924 Aug 30 06:29	7° ⊙ 24'36	6.30265 AU
conjunction	3919 Mar 01 02:47	9° ⊙ 26'16	0°-38'-7	morning rise	3924 Sep 11 12:19	10° ⊙ 06'47	
minimum elong	3919 Mar 01 02:46	9° ⊙ 26'15	0°38'09	retrograde	3925 Jan 12 14:18	27° ⊙ 44'15	
morning rise	3919 Mar 13 23:22	12° ⊙ 29'13		opposition	3925 Mar 13 16:43	22° ⊙ 44'54	1°09'59
	3919 Jun 13 04:49	0° ⊙		min. Earth dist.	3925 Mar 13 05:10	22° ⊙ 48'43	4.36635 AU
retrograde	3919 Jul 21 13:00	2° ⊙ 15'48		direct	3925 May 13 18:13	17° ⊙ 42'37	
	3919 Aug 29 02:38	30° ⊙			3925 Aug 22 08:14	0° ⊙	
opposition	3919 Sep 19 19:33	27° ⊙ 18'43	-1°-15'-40	evening set	3925 Sep 17 09:09	5° ⊙ 27'27	
min. Earth dist.	3919 Sep 20 03:35	27° ⊙ 16'04	4.00671 AU				
direct	3919 Nov 18 01:14	22° ⊙ 24'24		conjunction	3925 Sep 30 16:34	8° ⊙ 20'12	0°56'16
	3920 Jan 28 14:21	0° ⊙		minimum elong	3925 Sep 30 16:33	8° ⊙ 20'11	0°56'16
evening set	3920 Mar 22 16:40	11° ⊙ 59'29		max. Earth dist.	3925 Sep 30 18:34	8° ⊙ 21'17	6.41725 AU
				morning rise	3925 Oct 13 21:37	11° ⊙ 11'41	
conjunction	3920 Apr 04 17:38	15° ⊙ 08'49	0°-57'-56	retrograde	3926 Feb 11 19:40	28° ⊙ 07'18	
minimum elong	3920 Apr 04 17:37	15° ⊙ 08'48	0°57'57	opposition	3926 Apr 13 05:27	23° ⊙ 11'30	1°27'22
max. Earth dist.	3920 Apr 04 21:51	15° ⊙ 11'22	5.96184 AU	min. Earth dist.	3926 Apr 13 13:21	23° ⊙ 08'56	4.45168 AU
morning rise	3920 Apr 17 21:11	18° ⊙ 19'40		direct	3926 Jun 14 09:31	18° ⊙ 09'01	
	3920 Jun 09 00:33	0° ⊙			3926 Sep 21 18:56	0° ⊙	
retrograde	3920 Aug 27 22:25	8° ⊙ 57'08		evening set	3926 Oct 18 18:14	5° ⊙ 35'56	
opposition	3920 Oct 26 19:09	3° ⊙ 56'09	-1°-30'-6				
min. Earth dist.	3920 Oct 26 03:49	4° ⊙ 01'18	3.93940 AU	conjunction	3926 Oct 31 19:01	8° ⊙ 24'08	1°00'14
	3920 Nov 30 02:41	30° ⊙		minimum elong	3926 Oct 31 19:02	8° ⊙ 24'08	1°00'13
direct	3920 Dec 23 22:44	29° ⊙ 02'19		max. Earth dist.	3926 Oct 30 17:38	8° ⊙ 10'27	6.46680 AU
	3921 Jan 16 17:21	0° ⊙		morning rise	3926 Nov 13 17:14	11° ⊙ 11'04	
	3921 Apr 12 12:25	15° ⊙			3926 Dec 01 19:48	15° ⊙	
evening set	3921 Apr 28 20:26	18° ⊙ 53'05		retrograde	3927 Mar 13 20:16	27° ⊙ 52'35	
				opposition	3927 May 13 13:17	22° ⊙ 59'22	1°21'20
conjunction	3921 May 12 05:29	22° ⊙ 07'10	0°-55'-32	min. Earth dist.	3927 May 14 13:49	22° ⊙ 51'30	4.46381 AU
minimum elong	3921 May 12 05:31	22° ⊙ 07'11	0°55'32	direct	3927 Jul 15 06:21	17° ⊙ 57'29	
max. Earth dist.	3921 May 13 19:57	22° ⊙ 30'28	5.94062 AU		3927 Oct 23 12:48	0° ⊙	
morning rise	3921 May 25 17:21	25° ⊙ 22'45		evening set	3927 Nov 18 07:27	5° ⊙ 24'30	
	3921 Jun 14 07:15	0° ⊙		max. Earth dist.	3927 Nov 29 08:05	7° ⊙ 24'11	6.44031 AU
retrograde	3921 Oct 04 22:03	16° ⊙ 02'16					
min. Earth dist.	3921 Dec 02 03:28	11° ⊙ 09'02	3.96770 AU	conjunction	3927 Dec 01 03:20	8° ⊙ 21'46	0°48'04
opposition	3921 Dec 03 11:15	10° ⊙ 58'14	-1°-8'-12	minimum elong	3927 Dec 01 03:22	8° ⊙ 21'46	0°48'05
direct	3922 Jan 30 08:58	6° ⊙ 02'43		morning rise	3927 Dec 13 20:43	10° ⊙ 25'59	
evening set	3922 Jun 05 13:49	25° ⊙ 38'44		retrograde	3928 Apr 12 16:47	27° ⊙ 54'12	
				opposition	3928 Jun 12 14:56	23° ⊙ 02'11	0°53'39
conjunction	3922 Jun 19 05:27	28° ⊙ 52'27	0°-31'-11	min. Earth dist.	3928 Jun 14 02:00	22° ⊙ 25'00	4.40043 AU
minimum elong	3922 Jun 19 05:28	28° ⊙ 52'28	0°31'12	direct	3928 Aug 14 05:38	18° ⊙ 20'41	
max. Earth dist.	3922 Jun 21 13:20	29° ⊙ 25'31	6.01487 AU		3928 Nov 20 23:37	0° ⊙	
	3922 Jun 23 23:37	0° ⊙		evening set	3928 Dec 17 22:30	5° ⊙ 46'45	
morning rise	3922 Jul 02 23:24	2° ⊙ 07'05		max. Earth dist.	3928 Dec 28 11:27	8° ⊙ 07'31	6.34427 AU
retrograde	3922 Nov 09 19:14	21° ⊙ 58'58					
min. Earth dist.	3923 Jan 06 20:54	17° ⊙ 06'37	4.07904 AU	conjunction	3928 Dec 30 15:32	8° ⊙ 36'36	0°22'33
opposition	3923 Jan 08 09:23	16° ⊙ 54'11	0°-20'-38	minimum elong	3928 Dec 30 15:33	8° ⊙ 36'37	0°22'33
direct	3923 Mar 07 21:33	11° ⊙ 55'48		morning rise	3929 Jan 12 07:16	11° ⊙ 26'00	
asc. node	3923 Jun 11 16:19	24° ⊙ 08'11		retrograde	3929 May 15 09:30	29° ⊙ 04'43	
	3923 Jul 08 08:17	0° ⊙		opposition	3929 Jul 15 06:36	24° ⊙ 12'14	0°09'36
evening set	3923 Jul 12 09:40	0° ⊙ 55'15		min. Earth dist.	3929 Jul 16 19:24	24° ⊙ 00'28	4.27671 AU
				direct	3929 Sep 15 03:40	19° ⊙ 13'40	
conjunction	3923 Jul 26 03:14	4° ⊙ 03'29	0°04'03	desc. node	3929 Sep 30 01:46	19° ⊙ 34'23	
minimum elong	3923 Jul 26 03:13	4° ⊙ 03'28	0°04'02		3929 Dec 15 02:00	0° ⊙	
behind sun begin	3923 Jul 25 18:57	3° ⊙ 58'46		evening set	3930 Jan 18 13:37	7° ⊙ 32'31	
behind sun end	3923 Jul 26 11:28	4° ⊙ 08'10		max. Earth dist.	3930 Jan 29 09:37	10° ⊙ 01'58	6.20251 AU
max. Earth dist.	3923 Jul 28 07:00	4° ⊙ 33'06	6.15299 AU				
morning rise	3923 Aug 08 21:12	7° ⊙ 11'36		conjunction	3930 Jan 31 06:45	10° ⊙ 28'01	0°-10'-37
	3923 Sep 13 19:59	15° ⊙		minimum elong	3930 Jan 31 06:44	10° ⊙ 28'00	0°10'37
retrograde	3923 Dec 13 06:54	25° ⊙ 53'10		behind sun begin	3930 Jan 31 00:29	10° ⊙ 24'25	
min. Earth dist.	3924 Feb 09 21:40	20° ⊙ 59'26	4.22907 AU	behind sun end	3930 Jan 31 12:59	10° ⊙ 31'35	
opposition	3924 Feb 11 00:38	20° ⊙ 50'20	0°31'10	morning rise	3930 Feb 12 23:36	13° ⊙ 23'41	
direct	3924 Apr 10 19:00	15° ⊙ 49'26			3930 Feb 20 00:18	15° ⊙	

	3930 May 13 02:32	0°♄			3936 Jan 03 08:11	30°♄♂	
retrograde	3930 Jun 19 09:09	2°♄06'50		min. Earth dist.	3936 Feb 14 08:23	25°♂33'54	4.24491 AU
	3930 Jul 26 23:20	30°♄≈		opposition	3936 Feb 15 10:30	25°♂25'07	0°37'24
opposition	3930 Aug 19 01:13	27°≈12'26	0°-40'-24	direct	3936 Apr 15 07:48	20°♂23'58	
min. Earth dist.	3930 Aug 20 02:57	27°≈04'07	4.12632 AU		3936 Jul 09 15:31	0°♄	
direct	3930 Oct 18 14:09	22°≈16'18		evening set	3936 Aug 20 00:51	8°♄38'18	
	3930 Dec 31 04:16	0°♄					
evening set	3931 Feb 21 00:24	11°♄17'17		conjunction	3936 Sep 02 14:03	11°♄37'32	0°39'46
				minimum elong	3936 Sep 02 14:01	11°♄37'31	0°39'45
conjunction	3931 Mar 05 20:10	14°♄20'03	0°-41'-46	max. Earth dist.	3936 Sep 03 16:38	11°♄52'13	6.31690 AU
minimum elong	3931 Mar 05 20:08	14°♄20'02	0°41'48	morning rise	3936 Sep 16 01:55	14°♄35'50	
max. Earth dist.	3931 Mar 04 19:57	14°♄05'38	6.05639 AU		3936 Dec 10 17:29	0°♂	
morning rise	3931 Mar 18 17:25	17°♄23'50		retrograde	3937 Jan 16 21:12	2°♂07'28	
	3931 May 16 00:17	0°♄			3937 Feb 22 21:32	30°♄♄	
retrograde	3931 Jul 26 16:17	7°♄17'03		opposition	3937 Mar 17 23:11	27°♄08'35	1°13'39
opposition	3931 Sep 24 21:47	2°♄19'24	-1°-19'-29	min. Earth dist.	3937 Mar 17 14:42	27°♄11'24	4.37807 AU
min. Earth dist.	3931 Sep 25 03:15	2°♄17'36	3.99765 AU	direct	3937 May 18 05:24	22°♄06'13	
	3931 Oct 13 07:29	30°♄♄			3937 Aug 03 21:12	0°♂	
direct	3931 Nov 23 00:23	27°♄25'11		evening set	3937 Sep 21 19:16	9°♂48'35	
	3932 Jan 01 23:46	0°♄					
evening set	3932 Mar 27 14:33	17°♄02'08		conjunction	3937 Oct 05 01:51	12°♂40'39	0°57'44
				minimum elong	3937 Oct 05 01:50	12°♂40'39	0°57'44
conjunction	3932 Apr 09 16:32	20°♄12'07	0°-58'-58	max. Earth dist.	3937 Oct 05 00:53	12°♂40'08	6.42556 AU
minimum elong	3932 Apr 09 16:31	20°♄12'06	0°59'00	morning rise	3937 Oct 18 05:56	15°♂31'26	
max. Earth dist.	3932 Apr 10 01:57	20°♄17'49	5.95728 AU		3938 Jan 07 02:08	0°♄	
morning rise	3932 Apr 22 20:59	23°♄23'36		retrograde	3938 Feb 15 22:54	2°♄24'06	
	3932 May 21 02:28	0°♄			3938 Mar 27 23:53	30°♄♄	
retrograde	3932 Sep 02 02:17	14°♄03'00		opposition	3938 Apr 17 10:32	27°♄28'39	1°27'50
opposition	3932 Oct 31 21:14	9°♄01'34	-1°-29'-10	min. Earth dist.	3938 Apr 17 19:51	27°♄25'38	4.45626 AU
min. Earth dist.	3932 Oct 31 04:02	9°♄07'20	3.94010 AU	direct	3938 Jun 18 16:15	22°♄26'11	
direct	3932 Dec 28 23:03	4°♄07'36			3938 Sep 03 07:19	0°♄	
	3933 Mar 25 22:08	15°♄		evening set	3938 Oct 23 01:02	9°♄52'16	
evening set	3933 May 03 21:10	23°♄57'21		max. Earth dist.	3938 Nov 03 22:02	12°♄25'32	6.46726 AU
conjunction	3933 May 17 07:04	27°♄11'37	0°-53'-22	conjunction	3938 Nov 05 01:04	12°♄40'07	0°59'25
minimum elong	3933 May 17 07:06	27°♄11'38	0°53'23	minimum elong	3938 Nov 05 01:04	12°♄40'08	0°59'24
max. Earth dist.	3933 May 18 22:48	27°♄35'37	5.94625 AU		3938 Nov 15 20:35	15°♄	
	3933 May 28 22:25	0°♄		morning rise	3938 Nov 17 22:23	15°♄26'43	
morning rise	3933 May 30 20:07	0°♄27'25			3939 Feb 08 07:22	0°♄	
retrograde	3933 Oct 09 19:16	21°♄03'00		retrograde	3939 Mar 18 01:14	2°♄08'26	
min. Earth dist.	3933 Dec 06 23:42	16°♄10'05	3.97775 AU		3939 Apr 25 00:15	30°♄♄	
opposition	3933 Dec 08 09:05	15°♄58'43	-1°-2'-54	opposition	3939 May 17 19:29	27°♄15'27	1°18'37
direct	3934 Feb 04 06:45	11°♄02'49		min. Earth dist.	3939 May 18 21:51	27°♄07'01	4.45992 AU
	3934 Jun 08 01:04	0°♄		direct	3939 Jul 19 13:50	22°♄13'43	
evening set	3934 Jun 10 13:37	0°♄35'28			3939 Oct 05 07:02	0°♄	
				evening set	3939 Nov 22 13:02	9°♄41'46	
conjunction	3934 Jun 24 05:57	3°♄48'51	0°-26'-48	max. Earth dist.	3939 Dec 03 10:06	12°♄03'54	6.43199 AU
minimum elong	3934 Jun 24 05:58	3°♄48'51	0°26'49				
max. Earth dist.	3934 Jun 26 13:51	4°♄21'49	6.02848 AU	conjunction	3939 Dec 05 08:16	12°♄29'07	0°45'11
morning rise	3934 Jul 08 00:13	7°♄02'59		minimum elong	3939 Dec 05 08:17	12°♄29'08	0°45'11
retrograde	3934 Nov 14 11:52	26°♄47'20		morning rise	3939 Dec 18 01:22	15°♄15'32	
min. Earth dist.	3935 Jan 11 14:28	21°♄54'31	4.09461 AU		3940 Mar 09 05:49	0°♄	
opposition	3935 Jan 13 01:11	21°♄42'42	0°-13'-31	retrograde	3940 Apr 17 02:42	2°♄15'32	
direct	3935 Mar 12 17:13	16°♄43'55			3940 May 26 08:24	30°♄♄	
asc. node	3935 Apr 23 23:14	19°♄32'47		opposition	3940 Jun 17 00:56	27°♄23'28	0°48'18
	3935 Jun 21 17:29	0°♄		min. Earth dist.	3940 Jun 18 12:57	27°♄12'00	4.38782 AU
evening set	3935 Jul 17 05:53	5°♄39'10		direct	3940 Aug 18 14:41	22°♄23'08	
					3940 Nov 02 13:23	0°♄	
conjunction	3935 Jul 30 23:21	8°♄46'36	0°08'46	evening set	3940 Dec 22 05:23	10°♄11'29	
minimum elong	3935 Jul 30 23:21	8°♄46'36	0°08'46	max. Earth dist.	3941 Jan 01 19:20	12°♄33'17	6.32820 AU
behind sun begin	3935 Jul 30 16:10	8°♄42'32					
behind sun end	3935 Jul 31 06:31	8°♄50'40		conjunction	3941 Jan 03 22:24	13°♄01'55	0°18'13
max. Earth dist.	3935 Aug 02 01:48	9°♄15'21	6.16934 AU	minimum elong	3941 Jan 03 22:25	13°♄01'55	0°18'13
morning rise	3935 Aug 13 16:59	11°♄53'49		morning rise	3941 Jan 16 13:57	15°♄51'55	
	3935 Aug 27 14:43	15°♄			3941 Mar 31 06:19	0°≈	
	3935 Nov 30 21:16	0°♄		retrograde	3941 May 20 00:42	3°≈37'55	
retrograde	3935 Dec 17 15:23	0°♄27'31			3941 Jul 10 01:50	30°♄♄	

opposition	3941 Jul 19 22:27	28° $\overline{3}$ 45'16	0°02'42	min. Earth dist.	3947 Jan 16 09:05	26° $\overline{5}$ 53'25	4.11396 AU
min. Earth dist.	3941 Jul 21 10:13	28° $\overline{3}$ 33'50	4.25796 AU	opposition	3947 Jan 17 20:24	26° $\overline{5}$ 41'25	0°-6'00
desc. node	3941 Aug 10 10:42	26° $\overline{3}$ 08'32		asc. node	3947 Mar 03 19:29	22° $\overline{5}$ 01'41	
direct	3941 Sep 19 15:28	23° $\overline{3}$ 47'04		direct	3947 Mar 17 15:03	21° $\overline{5}$ 42'20	
	3941 Nov 25 04:43	0° \approx			3947 Jun 02 09:32	0° Ω	
evening set	3942 Jan 23 01:20	12° \approx 11'03		evening set	3947 Jul 22 05:40	10° Ω 31'53	
max. Earth dist.	3942 Feb 02 22:22	14° \approx 41'50	6.18251 AU				
				conjunction	3947 Aug 04 22:41	13° Ω 38'12	0°13'37
conjunction	3942 Feb 04 18:28	15° \approx 07'23	0°-15'-17	minimum elong	3947 Aug 04 22:40	13° Ω 38'12	0°13'38
minimum elong	3942 Feb 04 18:27	15° \approx 07'23	0°15'18	behind sun begin	3947 Aug 04 18:20	13° Ω 35'45	
behind sun begin	3942 Feb 04 15:39	15° \approx 05'46		behind sun end	3947 Aug 05 03:01	13° Ω 40'39	
behind sun end	3942 Feb 04 21:15	15° \approx 09'00		max. Earth dist.	3947 Aug 06 22:01	14° Ω 05'03	6.19104 AU
	3942 Feb 04 05:43	15° \approx			3947 Aug 10 23:02	15° Ω	
morning rise	3942 Feb 17 11:49	18° \approx 04'05		morning rise	3947 Aug 18 15:50	16° Ω 44'13	
	3942 Apr 15 02:20	0° \mathcal{H}			3947 Oct 23 23:59	0° \mathcal{M}	
retrograde	3942 Jun 24 09:46	6° \mathcal{H} 56'51		retrograde	3947 Dec 22 03:15	5° \mathcal{M} 08'02	
opposition	3942 Aug 24 00:02	2° \mathcal{H} 02'04	0°-46'-52	opposition	3948 Feb 19 22:44	0° \mathcal{M} 06'01	0°43'35
min. Earth dist.	3942 Aug 24 23:55	1° \mathcal{H} 54'20	4.10644 AU	min. Earth dist.	3948 Feb 18 23:00	0° \mathcal{M} 13'59	4.26705 AU
	3942 Sep 09 04:36	30° \mathcal{R} \approx			3948 Feb 20 16:38	30° \mathcal{R} Ω	
direct	3942 Oct 23 08:51	27° \approx 06'13		direct	3948 Apr 20 01:48	25° Ω 04'37	
	3942 Dec 05 14:06	0° \mathcal{H}			3948 Jun 17 17:10	0° \mathcal{M}	
evening set	3943 Feb 25 18:46	16° \mathcal{H} 12'58		evening set	3948 Aug 24 17:01	13° \mathcal{M} 12'54	
conjunction	3943 Mar 10 15:21	19° \mathcal{H} 16'50	0°-45'-14	conjunction	3948 Sep 07 05:28	16° \mathcal{M} 10'55	0°43'08
minimum elong	3943 Mar 10 15:19	19° \mathcal{H} 16'49	0°45'14	minimum elong	3948 Sep 07 05:26	16° \mathcal{M} 10'54	0°43'08
max. Earth dist.	3943 Mar 09 19:35	19° \mathcal{H} 05'02	6.03855 AU	max. Earth dist.	3948 Sep 08 06:09	16° \mathcal{M} 24'29	6.33786 AU
morning rise	3943 Mar 23 13:19	22° \mathcal{H} 21'45		morning rise	3948 Sep 20 16:06	19° \mathcal{M} 07'52	
	3943 Apr 25 21:53	0° \mathcal{Y}			3948 Nov 13 23:14	0° $\underline{\Delta}$	
retrograde	3943 Jul 31 22:43	12° \mathcal{Y} 23'41		retrograde	3949 Jan 21 00:55	6° $\underline{\Delta}$ 31'24	
opposition	3943 Sep 30 02:16	7° \mathcal{Y} 25'35	-1°-22'-52	opposition	3949 Mar 22 05:30	1° $\underline{\Delta}$ 33'00	1°16'56
min. Earth dist.	3943 Sep 30 05:04	7° \mathcal{Y} 24'40	3.98379 AU	min. Earth dist.	3949 Mar 21 22:21	1° $\underline{\Delta}$ 35'21	4.39642 AU
direct	3943 Nov 28 00:07	2° \mathcal{Y} 31'36			3949 Apr 03 04:48	30° \mathcal{R} \mathcal{M}	
evening set	3944 Apr 01 15:55	22° \mathcal{Y} 12'29		direct	3949 May 22 14:59	26° \mathcal{M} 30'33	
					3949 Jul 11 07:01	0° $\underline{\Delta}$	
conjunction	3944 Apr 14 18:48	25° \mathcal{Y} 23'20	0°-59'-38	evening set	3949 Sep 26 04:32	14° $\underline{\Delta}$ 08'14	
minimum elong	3944 Apr 14 18:47	25° \mathcal{Y} 23'20	0°59'38				
max. Earth dist.	3944 Apr 15 07:13	25° \mathcal{Y} 30'53	5.94853 AU	conjunction	3949 Oct 09 09:57	16° $\underline{\Delta}$ 59'18	0°58'54
morning rise	3944 Apr 28 00:37	28° \mathcal{Y} 35'48		minimum elong	3949 Oct 09 09:56	16° $\underline{\Delta}$ 59'18	0°58'54
	3944 May 03 20:52	0° \mathcal{B}		max. Earth dist.	3949 Oct 09 04:22	16° $\underline{\Delta}$ 56'17	6.43987 AU
	3944 Jul 16 00:12	15° \mathcal{B}		morning rise	3949 Oct 22 13:00	19° $\underline{\Delta}$ 49'05	
retrograde	3944 Sep 07 08:36	19° \mathcal{B} 18'46			3949 Dec 12 23:35	0° \mathcal{M}	
	3944 Oct 31 18:35	15° \mathcal{R} \mathcal{B}		retrograde	3950 Feb 20 01:49	6° \mathcal{M} 37'05	
min. Earth dist.	3944 Nov 05 06:26	14° \mathcal{B} 23'50	3.93763 AU	opposition	3950 Apr 21 13:59	1° \mathcal{M} 42'02	1°27'50
opposition	3944 Nov 06 03:04	14° \mathcal{B} 16'53	-1°-27'-33	min. Earth dist.	3950 Apr 22 02:47	1° \mathcal{M} 37'53	4.46562 AU
direct	3945 Jan 03 02:30	9° \mathcal{B} 22'47			3950 May 04 23:27	30° \mathcal{R} $\underline{\Delta}$	
	3945 Mar 04 00:17	15° \mathcal{B}		direct	3950 Jun 22 23:45	26° $\underline{\Delta}$ 39'31	
evening set	3945 May 09 02:37	29° \mathcal{B} 12'49			3950 Aug 10 23:20	0° \mathcal{M}	
	3945 May 12 09:10	0° Π		evening set	3950 Oct 27 05:06	14° \mathcal{M} 03'19	
					3950 Oct 31 14:49	15° \mathcal{M}	
conjunction	3945 May 22 13:44	2° Π 27'26	0°-50'-42	max. Earth dist.	3950 Nov 07 21:35	16° \mathcal{M} 34'07	6.47072 AU
minimum elong	3945 May 22 13:46	2° Π 27'27	0°50'44				
max. Earth dist.	3945 May 24 09:31	2° Π 53'51	5.95040 AU	conjunction	3950 Nov 09 04:21	16° \mathcal{M} 50'43	0°58'18
morning rise	3945 Jun 05 03:41	5° Π 43'29		minimum elong	3950 Nov 09 04:22	16° \mathcal{M} 50'43	0°58'19
retrograde	3945 Oct 14 22:37	26° Π 15'23		morning rise	3950 Nov 22 00:55	19° \mathcal{M} 36'53	
min. Earth dist.	3945 Dec 12 01:36	21° Π 22'24	3.98797 AU		3951 Jan 13 18:17	0° \mathcal{J}	
opposition	3945 Dec 13 11:16	21° Π 10'56	0°-56'-54	retrograde	3951 Mar 22 03:18	6° \mathcal{J} 18'13	
direct	3946 Feb 09 10:46	16° Π 14'43		opposition	3951 May 21 23:10	1° \mathcal{J} 25'23	1°15'34
	3946 May 21 16:59	0° $\overline{5}$		min. Earth dist.	3951 May 23 03:08	1° \mathcal{J} 16'25	4.45728 AU
evening set	3946 Jun 15 18:29	5° $\overline{5}$ 43'53			3951 Jun 02 05:46	30° \mathcal{R} \mathcal{M}	
				direct	3951 Jul 23 17:34	26° \mathcal{M} 23'40	
conjunction	3946 Jun 29 11:23	8° $\overline{5}$ 56'48	0°-22'-2		3951 Sep 12 18:40	0° \mathcal{J}	
minimum elong	3946 Jun 29 11:24	8° $\overline{5}$ 56'49	0°22'03	evening set	3951 Nov 26 15:24	13° \mathcal{J} 52'32	
max. Earth dist.	3946 Jul 01 20:55	9° $\overline{5}$ 30'35	6.04400 AU	max. Earth dist.	3951 Dec 07 11:01	16° \mathcal{J} 14'09	6.42330 AU
morning rise	3946 Jul 13 05:59	12° $\overline{5}$ 10'21					
	3946 Oct 17 00:20	0° Ω		conjunction	3951 Dec 09 10:13	16° \mathcal{J} 40'01	0°42'09
retrograde	3946 Nov 19 06:16	1° Ω 45'50		minimum elong	3951 Dec 09 10:15	16° \mathcal{J} 40'02	0°42'08
	3946 Dec 22 06:18	30° \mathcal{R} $\overline{5}$		morning rise	3951 Dec 22 02:48	19° \mathcal{J} 26'36	

	3952 Feb 12 20:16	0°♄			3957 Sep 19 03:29	0°♄		
retrograde	3952 Apr 21 09:42	6°♄30'47		retrograde	3957 Oct 20 02:48	1°♄32'41		
opposition	3952 Jun 21 08:17	1°♄38'44	0°42'49		3957 Nov 19 20:44	30°♄II		
min. Earth dist.	3952 Jun 22 21:48	1°♄26'48	4.37335 AU	min. Earth dist.	3957 Dec 17 03:32	26°♄40'14	4.00092 AU	
	3952 Jul 04 11:58	30°♄♂		opposition	3957 Dec 18 15:27	26°♄28'00	0°-50'-19	
direct	3952 Aug 22 20:34	26°♄♂38'34		direct	3958 Feb 14 15:22	21°♄31'24		
	3952 Oct 10 10:18	0°♄			3958 May 01 22:13	0°♄		
evening set	3952 Dec 26 10:10	14°♄31'00		evening set	3958 Jun 21 01:26	10°♄55'46		
max. Earth dist.	3953 Jan 05 21:43	16°♄52'09	6.30884 AU					
				conjunction	3958 Jul 04 18:36	14°♄07'57	0°-17'00	
conjunction	3953 Jan 08 02:57	17°♄22'07	0°13'54	minimum elong	3958 Jul 04 18:37	14°♄07'57	0°17'02	
minimum elong	3953 Jan 08 02:57	17°♄22'08	0°13'55	max. Earth dist.	3958 Jul 07 03:31	14°♄41'13	6.06292 AU	
behind sun begin	3953 Jan 07 22:43	17°♄19'45		morning rise	3958 Jul 18 13:28	17°♄20'39		
behind sun end	3953 Jan 08 07:12	17°♄24'30			3958 Sep 16 15:39	0°♄		
morning rise	3953 Jan 20 18:45	20°♄12'57		retrograde	3958 Nov 24 01:51	6°♄45'51		
	3953 Mar 08 11:04	0°♄		asc. node	3959 Jan 10 15:13	3°♄18'10		
retrograde	3953 May 24 16:27	8°♄07'37		min. Earth dist.	3959 Jan 21 06:31	1°♄53'09	4.13632 AU	
desc. node	3953 Jun 22 01:33	6°♄53'59		opposition	3959 Jan 22 16:39	1°♄41'33	0°01'36	
opposition	3953 Jul 24 12:41	3°♄14'43	0°-4'-5		3959 Feb 04 10:18	30°♄♄		
min. Earth dist.	3953 Jul 26 00:04	3°♄03'22	4.23478 AU	direct	3959 Mar 22 16:28	26°♄42'01		
	3953 Aug 21 04:12	30°♄♄			3959 May 07 23:04	0°♄		
direct	3953 Sep 24 01:39	28°♄16'40			3959 Jul 25 09:38	15°♄		
	3953 Oct 27 17:09	0°♄		evening set	3959 Jul 27 05:56	15°♄24'49		
	3954 Jan 19 16:28	15°♄						
evening set	3954 Jan 27 11:59	16°♄47'36		conjunction	3959 Aug 09 22:40	18°♄29'55	0°18'26	
max. Earth dist.	3954 Feb 07 12:15	19°♄21'01	6.15747 AU	minimum elong	3959 Aug 09 22:39	18°♄29'54	0°18'25	
				max. Earth dist.	3959 Aug 11 21:01	18°♄56'03	6.21480 AU	
conjunction	3954 Feb 09 05:39	19°♄45'09	0°-19'-48	morning rise	3959 Aug 23 14:56	21°♄34'30		
minimum elong	3954 Feb 09 05:38	19°♄45'08	0°19'49		3959 Oct 02 05:57	0°♄		
morning rise	3954 Feb 21 23:24	22°♄43'05		retrograde	3959 Dec 26 14:07	9°♄47'54		
	3954 Mar 26 13:18	0°♄		opposition	3960 Feb 24 10:58	4°♄46'23	0°49'31	
retrograde	3954 Jun 29 11:05	11°♄47'26		min. Earth dist.	3960 Feb 23 12:49	4°♄53'48	4.28990 AU	
opposition	3954 Aug 28 23:05	6°♄52'17	0°-53'-2		3960 Apr 12 04:44	30°♄♄		
min. Earth dist.	3954 Aug 29 21:10	6°♄45'07	4.08161 AU	direct	3960 Apr 24 18:08	29°♄44'48		
direct	3954 Oct 28 01:56	1°♄56'45			3960 May 07 10:04	0°♄		
evening set	3955 Mar 02 14:20	21°♄11'12		evening set	3960 Aug 29 09:33	17°♄47'11		
conjunction	3955 Mar 15 11:34	24°♄16'23	0°-48'-21	conjunction	3960 Sep 11 20:53	20°♄43'57	0°46'18	
minimum elong	3955 Mar 15 11:32	24°♄16'22	0°48'22	minimum elong	3960 Sep 11 20:51	20°♄43'56	0°46'18	
max. Earth dist.	3955 Mar 14 18:24	24°♄06'05	6.01609 AU	max. Earth dist.	3960 Sep 12 15:59	20°♄54'25	6.35784 AU	
morning rise	3955 Mar 28 10:44	27°♄22'48		morning rise	3960 Sep 25 06:36	23°♄39'40		
	3955 Apr 08 12:27	0°♄			3960 Oct 25 10:57	0°♄		
retrograde	3955 Aug 06 06:04	17°♄35'12		retrograde	3961 Jan 25 07:45	10°♄55'57		
opposition	3955 Oct 05 08:32	12°♄36'33	-1°-25'-39	opposition	3961 Mar 26 12:42	5°♄58'04	1°19'51	
min. Earth dist.	3955 Oct 05 07:10	12°♄37'00	3.96618 AU	min. Earth dist.	3961 Mar 26 09:12	5°♄59'13	4.41225 AU	
direct	3955 Dec 03 01:21	7°♄42'39		direct	3961 May 27 02:51	0°♄55'33		
evening set	3956 Apr 06 20:08	27°♄28'56		evening set	3961 Sep 30 14:14	18°♄29'39		
	3956 Apr 17 05:10	0°♄						
				conjunction	3961 Oct 13 18:52	21°♄19'57	0°59'48	
conjunction	3956 Apr 20 00:22	0°♄40'53	0°-59'-46	minimum elong	3961 Oct 13 18:51	21°♄19'57	0°59'48	
minimum elong	3956 Apr 20 00:23	0°♄40'53	0°59'47	max. Earth dist.	3961 Oct 13 10:25	21°♄15'24	6.45036 AU	
max. Earth dist.	3956 Apr 20 19:13	0°♄52'21	5.93764 AU	morning rise	3961 Oct 26 20:45	24°♄08'54		
morning rise	3956 May 03 07:20	3°♄54'26			3961 Nov 24 01:03	0°♄		
	3956 Jun 21 08:41	15°♄		retrograde	3962 Feb 24 05:04	10°♄53'54		
retrograde	3956 Sep 12 19:53	24°♄41'14		opposition	3962 Apr 25 19:16	5°♄59'16	1°27'26	
opposition	3956 Nov 11 11:31	19°♄38'49	-1°-25'-7	min. Earth dist.	3962 Apr 26 09:47	5°♄54'35	4.47035 AU	
min. Earth dist.	3956 Nov 10 12:45	19°♄46'31	3.93481 AU	direct	3962 Jun 27 06:04	0°♄56'53		
	3956 Dec 27 04:45	15°♄♄			3962 Oct 15 16:08	15°♄		
direct	3957 Jan 08 09:47	14°♄44'32		evening set	3962 Oct 31 11:25	18°♄20'01		
	3957 Jan 20 13:51	15°♄		max. Earth dist.	3962 Nov 11 23:36	20°♄48'41	6.46932 AU	
	3957 Apr 25 01:17	0°♄						
evening set	3957 May 14 11:23	4°♄34'43		conjunction	3962 Nov 13 09:50	21°♄07'10	0°56'54	
				minimum elong	3962 Nov 13 09:51	21°♄07'11	0°56'55	
conjunction	3957 May 27 23:38	7°♄49'37	0°-47'-33	morning rise	3962 Nov 26 05:43	23°♄53'09		
minimum elong	3957 May 27 23:40	7°♄49'39	0°47'34		3962 Dec 25 16:19	0°♄		
max. Earth dist.	3957 May 29 23:53	8°♄18'40	5.95581 AU	retrograde	3963 Mar 26 10:46	10°♄♄35'52		
morning rise	3957 Jun 10 14:42	11°♄05'52		opposition	3963 May 26 06:18	5°♄43'18	1°12'05	

min. Earth dist.	3963 May 27 13:07	5°♂33'28	4.44983 AU	conjunction	3969 Jun 02 08:15	13°♂08'57	0°-44'-5
direct	3963 Jul 28 01:33	0°♂41'47		minimum elong	3969 Jun 02 08:17	13°♂08'58	0°44'05
evening set	3963 Nov 30 21:29	18°♂13'02		max. Earth dist.	3969 Jun 04 10:22	13°♂39'00	5.96890 AU
max. Earth dist.	3963 Dec 11 13:48	20°♂33'20	6.41025 AU	morning rise	3969 Jun 16 00:08	16°♂24'54	
					3969 Aug 18 05:23	0°♂	
conjunction	3963 Dec 13 15:55	21°♂00'52	0°38'46	retrograde	3969 Oct 25 03:06	6°♂43'38	
minimum elong	3963 Dec 13 15:57	21°♂00'53	0°38'46	min. Earth dist.	3969 Dec 22 04:15	1°♂51'08	4.01968 AU
morning rise	3963 Dec 26 08:19	23°♂47'54		opposition	3969 Dec 23 16:30	1°♂38'46	0°-43'-32
	3964 Jan 24 15:51	0°♂			3970 Jan 05 00:30	30°♂♂	
retrograde	3964 Apr 25 22:04	10°♂57'53		direct	3970 Feb 19 20:13	26°♂41'41	
opposition	3964 Jun 25 20:34	6°♂05'49	0°36'51		3970 Apr 06 08:29	0°♂	
min. Earth dist.	3964 Jun 27 10:02	5°♂53'52	4.35544 AU	evening set	3970 Jun 26 04:57	15°♂59'29	
direct	3964 Aug 27 05:23	1°♂05'54					
evening set	3964 Dec 30 19:32	19°♂03'30		conjunction	3970 Jul 09 22:28	19°♂10'43	0°-12'-2
max. Earth dist.	3965 Jan 10 08:54	21°♂26'19	6.28755 AU	minimum elong	3970 Jul 09 22:29	19°♂10'44	0°12'03
				behind sun begin	3970 Jul 09 16:52	19°♂07'29	
conjunction	3965 Jan 12 12:25	21°♂55'29	0°09'17	behind sun end	3970 Jul 10 04:05	19°♂13'58	
minimum elong	3965 Jan 12 12:25	21°♂55'29	0°09'18	max. Earth dist.	3970 Jul 12 08:10	19°♂44'16	6.08563 AU
behind sun begin	3965 Jan 12 05:41	21°♂51'41		morning rise	3970 Jul 23 17:05	22°♂22'17	
behind sun end	3965 Jan 12 19:09	21°♂59'16			3970 Aug 27 04:17	0°♂	
morning rise	3965 Jan 25 04:12	24°♂47'12		asc. node	3970 Nov 20 20:34	11°♂30'03	
	3965 Feb 17 20:58	0°♂		retrograde	3970 Nov 28 17:33	11°♂36'11	
desc. node	3965 May 01 13:44	11°♂39'10		min. Earth dist.	3971 Jan 25 23:53	6°♂43'17	4.16048 AU
retrograde	3965 May 29 14:12	12°♂51'24		opposition	3971 Jan 27 08:43	6°♂32'09	0°08'54
opposition	3965 Jul 29 08:47	7°♂58'20	0°-11'-14	direct	3971 Mar 27 12:42	1°♂32'15	
min. Earth dist.	3965 Jul 30 19:35	7°♂47'10	4.21145 AU		3971 Jul 08 14:17	15°♂	
direct	3965 Sep 28 17:17	3°♂00'43		evening set	3971 Aug 01 02:10	20°♂08'04	
	3966 Jan 02 13:13	15°♂					
evening set	3966 Feb 01 04:06	21°♂38'27		conjunction	3971 Aug 14 18:11	23°♂11'52	0°22'57
max. Earth dist.	3966 Feb 12 05:57	24°♂13'39	6.13413 AU	minimum elong	3971 Aug 14 18:10	23°♂11'51	0°22'56
				max. Earth dist.	3971 Aug 16 11:54	23°♂35'16	6.23820 AU
conjunction	3966 Feb 13 21:59	24°♂37'06	0°-24'-26	morning rise	3971 Aug 28 09:50	26°♂15'07	
minimum elong	3966 Feb 13 21:58	24°♂37'05	0°24'26		3971 Sep 14 12:29	0°♂	
morning rise	3966 Feb 26 16:29	27°♂36'20		retrograde	3971 Dec 30 21:17	14°♂18'50	
	3966 Mar 09 01:03	0°♂		opposition	3972 Feb 28 19:45	9°♂17'45	0°54'55
retrograde	3966 Jul 04 15:48	16°♂51'39		min. Earth dist.	3972 Feb 28 00:23	9°♂24'13	4.31070 AU
opposition	3966 Sep 03 03:11	11°♂56'05	0°-59'-6	direct	3972 Apr 29 07:28	4°♂15'53	
min. Earth dist.	3966 Sep 03 21:30	11°♂50'07	4.06045 AU	evening set	3972 Sep 02 22:18	22°♂13'12	
direct	3966 Nov 02 00:22	7°♂00'53					
evening set	3967 Mar 07 14:29	26°♂21'33		conjunction	3972 Sep 16 08:52	25°♂08'56	0°49'06
				minimum elong	3972 Sep 16 08:50	25°♂08'55	0°49'06
conjunction	3967 Mar 20 12:40	29°♂27'54	0°-51'-16	max. Earth dist.	3972 Sep 17 00:47	25°♂17'38	6.37455 AU
minimum elong	3967 Mar 20 12:38	29°♂27'53	0°51'17	morning rise	3972 Sep 29 17:19	28°♂03'29	
max. Earth dist.	3967 Mar 20 01:48	29°♂21'21	5.99941 AU		3972 Oct 08 18:02	0°♂	
	3967 Mar 22 17:58	0°♂		retrograde	3973 Jan 29 10:55	15°♂13'53	
morning rise	3967 Apr 02 12:40	2°♂35'28		opposition	3973 Mar 30 17:21	10°♂16'31	1°22'17
retrograde	3967 Aug 11 18:22	22°♂55'39		min. Earth dist.	3973 Mar 30 16:17	10°♂16'52	4.42394 AU
opposition	3967 Oct 10 17:55	17°♂56'29	-1°-27'-50	direct	3973 May 31 10:39	5°♂13'59	
min. Earth dist.	3967 Oct 10 13:44	17°♂57'52	3.95608 AU	evening set	3973 Oct 04 22:05	22°♂45'50	
direct	3967 Dec 08 07:54	13°♂02'42		max. Earth dist.	3973 Oct 17 11:31	25°♂27'56	6.45609 AU
	3968 Mar 31 04:47	0°♂					
evening set	3968 Apr 12 02:34	2°♂51'11		conjunction	3973 Oct 18 01:38	25°♂35'32	1°00'22
				minimum elong	3973 Oct 18 01:37	25°♂35'32	1°00'22
conjunction	3968 Apr 25 07:53	6°♂03'47	0°-59'-29	morning rise	3973 Oct 31 02:45	28°♂23'57	
minimum elong	3968 Apr 25 07:53	6°♂03'47	0°59'29		3973 Nov 07 15:11	0°♂	
max. Earth dist.	3968 Apr 26 07:44	6°♂18'16	5.93511 AU		3974 Feb 19 12:44	15°♂	
morning rise	3968 May 08 16:09	9°♂18'00		retrograde	3974 Feb 28 09:47	15°♂07'28	
	3968 Jun 01 20:14	15°♂			3974 Mar 09 05:33	15°♂♂	
	3968 Sep 11 08:51	0°♂		opposition	3974 Apr 29 23:41	10°♂13'11	1°26'38
retrograde	3968 Sep 18 03:42	0°♂04'34		min. Earth dist.	3974 Apr 30 17:41	10°♂07'23	4.47009 AU
	3968 Sep 24 22:22	30°♂♂		direct	3974 Jul 01 12:55	5°♂10'50	
opposition	3968 Nov 16 19:36	25°♂01'42	-1°-22'-1		3974 Sep 28 14:46	15°♂	
min. Earth dist.	3968 Nov 15 17:13	25°♂10'37	3.94050 AU	evening set	3974 Nov 04 16:54	22°♂34'48	
direct	3969 Jan 13 15:55	20°♂07'11		max. Earth dist.	3974 Nov 16 02:16	25°♂02'11	6.46307 AU
	3969 Apr 06 01:06	0°♂					
evening set	3969 May 19 19:13	9°♂54'17		conjunction	3974 Nov 17 14:50	25°♂21'58	0°55'13
				minimum elong	3974 Nov 17 14:51	25°♂21'59	0°55'13

morning rise	3974 Nov 30 10:02	28° \mathbb{M} 07'58		opposition	3980 Nov 22 00:39	0° \mathbb{H} 17'42	-1°-18'-16
	3974 Dec 09 03:44	0° \mathbb{X}			3980 Nov 24 04:57	30° \mathbb{R} \mathbb{B}	
retrograde	3975 Mar 30 17:17	14° \mathbb{X} 53'36		direct	3981 Jan 18 21:34	25° \mathbb{B} 22'55	
opposition	3975 May 30 13:55	10° \mathbb{X} 01'11	1°08'15		3981 Mar 13 19:18	0° \mathbb{H}	
min. Earth dist.	3975 May 31 21:18	9° \mathbb{X} 51'10	4.43816 AU	evening set	3981 May 25 00:29	15° \mathbb{H} 06'45	
direct	3975 Aug 01 07:07	4° \mathbb{X} 59'53					
evening set	3975 Dec 05 04:11	22° \mathbb{X} 34'41		conjunction	3981 Jun 07 14:33	18° \mathbb{H} 21'13	0°-40'-19
max. Earth dist.	3975 Dec 15 19:41	24° \mathbb{X} 55'06	6.39406 AU	minimum elong	3981 Jun 07 14:35	18° \mathbb{H} 21'15	0°40'21
				max. Earth dist.	3981 Jun 09 20:04	18° \mathbb{H} 53'11	5.98239 AU
conjunction	3975 Dec 17 22:14	25° \mathbb{X} 23'00	0°35'11	morning rise	3981 Jun 21 07:00	21° \mathbb{H} 36'49	
minimum elong	3975 Dec 17 22:15	25° \mathbb{X} 23'01	0°35'11		3981 Jul 28 06:32	0° \mathbb{B}	
morning rise	3975 Dec 30 14:24	28° \mathbb{X} 10'35		retrograde	3981 Oct 30 02:36	11° \mathbb{B} 47'41	
	3976 Jan 07 23:05	0° \mathbb{B}		min. Earth dist.	3981 Dec 27 02:44	6° \mathbb{B} 55'09	4.03744 AU
retrograde	3976 Apr 30 13:31	15° \mathbb{B} 27'24		opposition	3981 Dec 28 14:49	6° \mathbb{B} 42'51	0°-36'-34
opposition	3976 Jun 30 10:29	10° \mathbb{B} 35'20	0°30'38	direct	3982 Feb 24 21:01	1° \mathbb{B} 45'25	
min. Earth dist.	3976 Jul 02 00:55	10° \mathbb{B} 23'05	4.33568 AU	evening set	3982 Jul 01 06:19	20° \mathbb{B} 57'33	
direct	3976 Aug 31 17:20	5° \mathbb{B} 35'45					
evening set	3977 Jan 04 06:30	23° \mathbb{B} 38'55		conjunction	3982 Jul 14 23:48	24° \mathbb{B} 07'54	0°-7'-4
max. Earth dist.	3977 Jan 14 19:58	26° \mathbb{B} 02'32	6.26583 AU	minimum elong	3982 Jul 14 23:49	24° \mathbb{B} 07'55	0°07'05
				behind sun begin	3982 Jul 14 16:06	24° \mathbb{B} 03'28	
conjunction	3977 Jan 16 23:20	26° \mathbb{B} 31'45	0°04'36	behind sun end	3982 Jul 15 07:32	24° \mathbb{B} 12'21	
minimum elong	3977 Jan 16 23:21	26° \mathbb{B} 31'45	0°04'36	max. Earth dist.	3982 Jul 17 07:20	24° \mathbb{B} 40'01	6.10589 AU
behind sun begin	3977 Jan 16 15:32	26° \mathbb{B} 27'20		morning rise	3982 Jul 28 18:30	27° \mathbb{B} 18'30	
behind sun end	3977 Jan 17 07:09	26° \mathbb{B} 36'10			3982 Aug 09 15:04	0° \mathbb{Q}	
morning rise	3977 Jan 29 15:26	29° \mathbb{B} 24'29		asc. node	3982 Oct 01 06:59	10° \mathbb{Q} 34'25	
	3977 Feb 01 06:18	0° \mathbb{Q}			3982 Nov 03 22:46	15° \mathbb{Q}	
desc. node	3977 Mar 11 02:01	8° \mathbb{Q} 05'39		retrograde	3982 Dec 03 06:12	16° \mathbb{Q} 22'35	
	3977 Apr 22 13:39	15° \mathbb{Q}			3983 Jan 01 08:25	15° \mathbb{R} \mathbb{Q}	
retrograde	3977 Jun 03 11:48	17° \mathbb{Q} 38'12		opposition	3983 Jan 31 23:10	11° \mathbb{Q} 18'53	0°16'02
	3977 Jul 15 23:57	15° \mathbb{R} \mathbb{Q}		min. Earth dist.	3983 Jan 30 15:33	11° \mathbb{Q} 29'35	4.18124 AU
opposition	3977 Aug 03 06:18	12° \mathbb{Q} 44'51	0°-18'-23	direct	3983 Apr 01 06:41	6° \mathbb{Q} 18'39	
min. Earth dist.	3977 Aug 04 14:21	12° \mathbb{Q} 34'33	4.18943 AU		3983 Jun 19 23:18	15° \mathbb{Q}	
direct	3977 Oct 03 09:13	7° \mathbb{Q} 47'36		evening set	3983 Aug 05 21:12	24° \mathbb{Q} 49'01	
	3977 Dec 13 21:35	15° \mathbb{Q}					
evening set	3978 Feb 05 21:24	26° \mathbb{Q} 31'32		conjunction	3983 Aug 19 12:45	27° \mathbb{Q} 51'44	0°27'17
max. Earth dist.	3978 Feb 17 04:36	29° \mathbb{Q} 10'32	6.11375 AU	minimum elong	3983 Aug 19 12:44	27° \mathbb{Q} 51'43	0°27'17
				max. Earth dist.	3983 Aug 21 03:33	28° \mathbb{Q} 13'25	6.25793 AU
conjunction	3978 Feb 18 15:45	29° \mathbb{Q} 31'13	0°-28'-54		3983 Aug 29 02:37	0° \mathbb{R} \mathbb{Q}	
minimum elong	3978 Feb 18 15:43	29° \mathbb{Q} 31'12	0°28'55	morning rise	3983 Sep 02 03:28	0° \mathbb{R} \mathbb{Q} 53'45	
	3978 Feb 20 16:38	0° \mathbb{K}		retrograde	3984 Jan 04 05:33	18° \mathbb{R} \mathbb{Q} 49'20	
morning rise	3978 Mar 03 10:42	2° \mathbb{K} 31'33		min. Earth dist.	3984 Mar 03 11:41	13° \mathbb{R} \mathbb{Q} 54'19	4.32779 AU
retrograde	3978 Jul 09 22:53	21° \mathbb{K} 56'32		opposition	3984 Mar 04 04:15	13° \mathbb{R} \mathbb{Q} 48'48	0°59'59
opposition	3978 Sep 08 07:59	17° \mathbb{K} 00'32	-1°-4'-44	direct	3984 May 03 20:40	8° \mathbb{R} \mathbb{Q} 46'50	
min. Earth dist.	3978 Sep 09 00:03	16° \mathbb{K} 55'17	4.04353 AU	evening set	3984 Sep 07 11:15	26° \mathbb{R} \mathbb{Q} 40'21	
direct	3978 Nov 07 01:30	12° \mathbb{K} 05'39					
	3979 Mar 06 06:26	0° \mathbb{Y}		conjunction	3984 Sep 20 20:49	29° \mathbb{R} \mathbb{Q} 35'10	0°51'37
evening set	3979 Mar 12 14:34	1° \mathbb{Y} 30'45		minimum elong	3984 Sep 20 20:47	29° \mathbb{R} \mathbb{Q} 35'09	0°51'36
				max. Earth dist.	3984 Sep 21 07:40	29° \mathbb{R} \mathbb{Q} 41'04	6.38762 AU
conjunction	3979 Mar 25 13:29	4° \mathbb{Y} 37'59	0°-53'-45		3984 Sep 22 18:25	0° \mathbb{L}	
minimum elong	3979 Mar 25 13:27	4° \mathbb{Y} 37'58	0°53'46	morning rise	3984 Oct 04 04:24	2° \mathbb{L} 28'49	
max. Earth dist.	3979 Mar 25 06:51	4° \mathbb{Y} 33'59	5.98734 AU	retrograde	3985 Feb 02 15:25	19° \mathbb{L} 34'37	
morning rise	3979 Apr 07 14:34	7° \mathbb{Y} 46'34		opposition	3985 Apr 03 23:01	14° \mathbb{L} 37'42	1°24'17
retrograde	3979 Aug 17 02:34	28° \mathbb{Y} 12'22		min. Earth dist.	3985 Apr 04 00:46	14° \mathbb{L} 37'08	4.43244 AU
opposition	3979 Oct 16 01:37	23° \mathbb{Y} 12'41	-1°-29'-14	direct	3985 Jun 04 19:23	9° \mathbb{L} 35'08	
min. Earth dist.	3979 Oct 15 17:11	23° \mathbb{Y} 15'29	3.95040 AU	evening set	3985 Oct 09 06:27	27° \mathbb{L} 05'35	
direct	3979 Dec 13 11:07	18° \mathbb{Y} 18'58					
	3980 Mar 13 06:49	0° \mathbb{B}		conjunction	3985 Oct 22 09:19	29° \mathbb{L} 54'51	1°00'36
evening set	3980 Apr 17 07:33	8° \mathbb{B} 08'15		minimum elong	3985 Oct 22 09:19	29° \mathbb{L} 54'51	1°00'37
				max. Earth dist.	3985 Oct 21 17:03	29° \mathbb{L} 46'05	6.45949 AU
conjunction	3980 Apr 30 13:52	11° \mathbb{B} 21'18	0°-58'-42		3985 Oct 22 18:53	0° \mathbb{M}	
minimum elong	3980 Apr 30 13:53	11° \mathbb{B} 21'18	0°58'43	morning rise	3985 Nov 04 09:23	2° \mathbb{M} 42'46	
max. Earth dist.	3980 May 01 17:33	11° \mathbb{B} 38'07	5.93615 AU		3986 Jan 08 04:29	15° \mathbb{M}	
morning rise	3980 May 13 23:14	14° \mathbb{B} 35'57		retrograde	3986 Mar 04 14:21	19° \mathbb{M} 25'35	
	3980 May 15 15:12	15° \mathbb{B}			3986 Apr 30 13:40	15° \mathbb{R} \mathbb{M}	
	3980 Jul 25 12:44	0° \mathbb{H}		opposition	3986 May 04 05:46	14° \mathbb{M} 31'41	1°25'21
retrograde	3980 Sep 23 08:51	5° \mathbb{H} 20'59		min. Earth dist.	3986 May 05 01:14	14° \mathbb{M} 25'25	4.46842 AU
min. Earth dist.	3980 Nov 20 20:33	0° \mathbb{H} 27'14	3.94811 AU	direct	3986 Jul 05 19:42	9° \mathbb{M} 29'32	

	3986 Sep 08 02:43	15°♍		conjunction	3992 May 05 15:42	16°♌27'26	0°-57'-28
evening set	3986 Nov 08 23:49	26°♍54'27		minimum elong	3992 May 05 15:43	16°♌27'27	0°57'29
max. Earth dist.	3986 Nov 20 05:07	29°♍20'01	6.45655 AU	max. Earth dist.	3992 May 07 00:03	16°♌47'03	5.93938 AU
				morning rise	3992 May 19 02:02	19°♌42'23	
conjunction	3986 Nov 21 20:56	29°♍41'37	0°53'13		3992 Jul 03 10:00	0°♐	
minimum elong	3986 Nov 21 20:57	29°♍41'37	0°53'12	retrograde	3992 Sep 28 10:31	10°♐24'55	
	3986 Nov 23 06:51	0°♐		min. Earth dist.	3992 Nov 25 19:38	5°♐31'15	3.95644 AU
morning rise	3986 Dec 04 15:43	2°♐27'41		opposition	3992 Nov 27 00:49	5°♐21'21	-1°-14'-5
retrograde	3987 Apr 04 03:41	19°♐16'17		direct	3993 Jan 23 21:48	0°♐26'17	
opposition	3987 Jun 03 23:30	14°♐24'03	1°03'58	evening set	3993 May 30 01:20	20°♐06'54	
min. Earth dist.	3987 Jun 05 08:47	14°♐13'25	4.42737 AU				
direct	3987 Aug 05 17:08	9°♐22'58		conjunction	3993 Jun 12 15:59	23°♐21'07	0°-36'-26
evening set	3987 Dec 09 12:00	27°♐00'43		minimum elong	3993 Jun 12 16:01	23°♐21'08	0°36'27
max. Earth dist.	3987 Dec 20 03:13	29°♐21'27	6.38006 AU	max. Earth dist.	3993 Jun 14 21:06	23°♐52'43	5.99481 AU
				morning rise	3993 Jun 26 09:15	26°♐36'25	
conjunction	3987 Dec 22 05:50	29°♐49'28	0°31'22		3993 Jul 10 22:38	0°♑	
minimum elong	3987 Dec 22 05:52	29°♐49'29	0°31'23	retrograde	3993 Nov 03 18:58	16°♑40'08	
	3987 Dec 23 00:52	0°♑		min. Earth dist.	3993 Dec 31 20:06	11°♑47'43	4.05266 AU
morning rise	3988 Jan 03 21:45	2°♑37'31		opposition	3994 Jan 02 08:28	11°♑35'20	0°-29'-40
retrograde	3988 May 05 03:01	20°♑00'20		direct	3994 Mar 01 16:33	6°♑37'29	
opposition	3988 Jul 05 01:30	15°♑08'09	0°24'12	evening set	3994 Jul 06 03:55	25°♑45'19	
min. Earth dist.	3988 Jul 06 14:20	14°♑56'24	4.31951 AU				
direct	3988 Sep 05 04:27	10°♑08'55		conjunction	3994 Jul 19 21:34	28°♑54'57	0°-2'-15
evening set	3989 Jan 08 17:39	28°♑16'07		minimum elong	3994 Jul 19 21:36	28°♑54'58	0°02'16
	3989 Jan 16 08:31	0°♒		behind sun begin	3994 Jul 19 13:13	28°♑50'10	
max. Earth dist.	3989 Jan 19 09:40	0°♒41'46	6.24888 AU	behind sun end	3994 Jul 20 05:59	28°♑59'46	
desc. node	3989 Jan 19 08:22	0°♒41'01		max. Earth dist.	3994 Jul 22 03:27	29°♑26'00	6.12277 AU
					3994 Jul 24 14:30	0°♒	
conjunction	3989 Jan 21 10:25	1°♒09'36	0°00'-10	morning rise	3994 Aug 02 16:01	2°♒04'41	
minimum elong	3989 Jan 21 10:25	1°♒09'36	0°00'11	asc. node	3994 Aug 13 11:49	4°♒31'38	
behind sun begin	3989 Jan 21 02:31	1°♒05'07			3994 Oct 04 11:47	15°♒	
behind sun end	3989 Jan 21 18:19	1°♒14'06		retrograde	3994 Dec 07 18:28	21°♒00'31	
morning rise	3989 Feb 03 02:38	4°♒03'05		min. Earth dist.	3995 Feb 04 05:26	16°♒07'04	4.19812 AU
	3989 Mar 27 06:55	15°♒		opposition	3995 Feb 05 10:38	15°♒57'12	0°22'46
retrograde	3989 Jun 08 10:30	22°♒24'42			3995 Feb 12 12:58	15°♒♐	
opposition	3989 Aug 08 03:50	17°♒31'02	0°-25'-20	direct	3995 Apr 05 22:34	10°♒56'43	
min. Earth dist.	3989 Aug 09 10:49	17°♒21'04	4.17278 AU		3995 May 28 03:26	15°♒	
	3989 Aug 28 16:24	15°♒♑		evening set	3995 Aug 10 13:44	29°♒23'04	
direct	3989 Oct 08 04:19	12°♒34'07			3995 Aug 13 08:22	0°♓	
	3989 Nov 17 00:32	15°♒					
	3990 Feb 04 16:40	0°♓		conjunction	3995 Aug 24 04:44	2°♓24'54	0°31'18
evening set	3990 Feb 10 13:31	1°♓22'03		minimum elong	3995 Aug 24 04:42	2°♓24'53	0°31'18
max. Earth dist.	3990 Feb 21 23:48	4°♓03'24	6.09889 AU	max. Earth dist.	3995 Aug 25 16:25	2°♓44'45	6.27350 AU
				morning rise	3995 Sep 06 18:45	5°♓25'57	
conjunction	3990 Feb 23 08:11	4°♓22'30	0°-33'-5	retrograde	3996 Jan 08 10:39	23°♓14'58	
minimum elong	3990 Feb 23 08:09	4°♓22'29	0°33'06	opposition	3996 Mar 08 11:13	18°♓14'54	1°04'33
morning rise	3990 Mar 08 03:44	7°♓23'42		min. Earth dist.	3996 Mar 07 20:11	18°♓19'54	4.34116 AU
retrograde	3990 Jul 15 00:48	26°♓56'03		direct	3996 May 08 06:36	13°♓12'49	
opposition	3990 Sep 13 10:08	21°♓59'34	-1°-9'-41		3996 Sep 07 00:24	0°♈	
min. Earth dist.	3990 Sep 13 22:21	21°♓55'35	4.03199 AU	evening set	3996 Sep 11 22:41	1°♈03'38	
direct	3990 Nov 11 22:38	17°♓04'55					
	3991 Feb 17 09:42	0°♉		conjunction	3996 Sep 25 07:25	3°♈57'41	0°53'45
evening set	3991 Mar 17 12:01	6°♉32'34		minimum elong	3996 Sep 25 07:24	3°♈57'40	0°53'45
				max. Earth dist.	3996 Sep 25 15:07	4°♈01'52	6.39795 AU
conjunction	3991 Mar 30 11:38	9°♉40'26	0°-55'-43	morning rise	3996 Oct 08 13:55	6°♈50'30	
minimum elong	3991 Mar 30 11:37	9°♉40'25	0°55'44	retrograde	3997 Feb 06 19:59	23°♈52'33	
max. Earth dist.	3991 Mar 30 09:18	9°♉39'01	5.98011 AU	opposition	3997 Apr 08 04:07	18°♈56'08	1°25'45
morning rise	3991 Apr 12 13:37	12°♉49'44		min. Earth dist.	3997 Apr 08 08:18	18°♈54'46	4.43920 AU
	3991 Jul 06 17:11	0°♉		direct	3997 Jun 09 03:55	13°♈53'38	
retrograde	3991 Aug 22 06:39	3°♉19'11			3997 Oct 07 02:19	0°♊	
	3991 Oct 08 07:52	30°♊♉		evening set	3997 Oct 13 14:12	1°♊22'56	
opposition	3991 Oct 21 05:05	28°♊18'54	-1°-29'-50				
min. Earth dist.	3991 Oct 20 18:22	28°♊22'29	3.94830 AU	conjunction	3997 Oct 26 16:07	4°♊11'45	1°00'28
direct	3991 Dec 18 12:58	23°♊25'06		minimum elong	3997 Oct 26 16:07	4°♊11'45	1°00'29
	3992 Feb 21 23:28	0°♊		max. Earth dist.	3997 Oct 25 19:41	4°♊00'45	6.46205 AU
evening set	3992 Apr 22 08:13	13°♊14'02		morning rise	3997 Nov 08 15:28	6°♊59'17	
	3992 Apr 29 15:31	15°♊			3997 Dec 18 00:56	15°♊	

retrograde	3998 Mar 08 19:30	23° \mathbb{M} 41'30			4003 Nov 25 04:48	30° \mathbb{R} Υ	
opposition	3998 May 08 11:23	18° \mathbb{M} 47'52	1°23'35	direct	4003 Dec 23 15:30	28° Υ 38'52	
min. Earth dist.	3998 May 09 08:55	18° \mathbb{M} 40'56	4.46676 AU		4004 Jan 20 23:26	0° \mathcal{B}	
	3998 Jun 11 03:23	15° \mathbb{R} \mathbb{M}			4004 Apr 12 21:40	15° \mathcal{B}	
direct	3998 Jul 10 02:56	13° \mathbb{M} 45'47		evening set	4004 Apr 27 12:48	18° \mathcal{B} 29'09	
	3998 Aug 08 07:50	15° \mathbb{M}					
	3998 Nov 07 16:20	0° \mathcal{A}		conjunction	4004 May 10 21:16	21° \mathcal{B} 43'03	0°-55'-47
evening set	3998 Nov 13 05:30	1° \mathcal{A} 11'23		minimum elong	4004 May 10 21:18	21° \mathcal{B} 43'04	0°55'47
max. Earth dist.	3998 Nov 24 09:57	3° \mathcal{A} 36'42	6.45059 AU	max. Earth dist.	4004 May 12 08:02	22° \mathcal{B} 04'07	5.93956 AU
				morning rise	4004 May 24 08:56	24° \mathcal{B} 58'34	
conjunction	3998 Nov 26 02:12	3° \mathcal{A} 58'34	0°50'55		4004 Jun 14 16:28	0° \mathbb{I}	
minimum elong	3998 Nov 26 02:13	3° \mathcal{A} 58'35	0°50'55	retrograde	4004 Oct 03 13:58	15° \mathbb{I} 39'25	
morning rise	3998 Dec 08 20:16	6° \mathcal{A} 44'38		min. Earth dist.	4004 Nov 30 20:39	10° \mathbb{I} 46'15	3.96293 AU
retrograde	3999 Apr 08 10:29	23° \mathcal{A} 36'01		opposition	4004 Dec 02 04:13	10° \mathbb{I} 35'32	-1°-9'-12
opposition	3999 Jun 08 08:06	18° \mathcal{A} 43'50	0°59'19	direct	4005 Jan 29 00:50	5° \mathbb{I} 40'07	
min. Earth dist.	3999 Jun 09 17:45	18° \mathcal{A} 33'07	4.41721 AU	evening set	4005 Jun 04 06:43	25° \mathbb{I} 18'19	
direct	3999 Aug 10 00:20	13° \mathcal{A} 43'01					
	3999 Dec 07 10:07	0° \mathcal{B}		conjunction	4005 Jun 17 22:17	28° \mathbb{I} 32'21	0°-32'-7
evening set	3999 Dec 13 18:28	1° \mathcal{B} 23'23		minimum elong	4005 Jun 17 22:19	28° \mathbb{I} 32'22	0°32'08
max. Earth dist.	3999 Dec 24 08:09	3° \mathcal{B} 43'49	6.36614 AU	max. Earth dist.	4005 Jun 20 05:22	29° \mathbb{I} 05'01	6.00717 AU
					4005 Jun 24 02:08	0° \mathcal{D}	
conjunction	3999 Dec 26 11:50	4° \mathcal{B} 12'32	0°27'24	morning rise	4005 Jul 01 16:01	1° \mathcal{D} 47'17	
minimum elong	3999 Dec 26 11:51	4° \mathcal{B} 12'32	0°27'24	retrograde	4005 Nov 08 17:21	21° \mathcal{D} 43'27	
morning rise	4000 Jan 08 03:42	7° \mathcal{B} 01'06		min. Earth dist.	4006 Jan 05 18:33	16° \mathcal{D} 50'49	4.06940 AU
retrograde	4000 May 09 18:02	24° \mathcal{B} 30'11		opposition	4006 Jan 07 06:05	16° \mathcal{D} 38'42	0°-22'-18
opposition	4000 Jul 09 15:31	19° \mathcal{B} 37'53	0°17'37	direct	4006 Mar 06 17:40	11° \mathcal{D} 40'30	
min. Earth dist.	4000 Jul 11 05:04	19° \mathcal{B} 25'54	4.30226 AU	asc. node	4006 Jun 23 06:54	26° \mathcal{D} 41'04	
direct	4000 Sep 09 17:00	14° \mathcal{B} 38'54			4006 Jul 08 01:35	0° \mathcal{Q}	
desc. node	4000 Nov 29 15:05	23° \mathcal{B} 22'33		evening set	4006 Jul 11 05:28	0° \mathcal{Q} 43'12	
	4000 Dec 31 11:42	0° \approx					
evening set	4001 Jan 13 03:40	2° \approx 50'45		conjunction	4006 Jul 24 23:07	3° \mathcal{Q} 51'56	0°02'53
max. Earth dist.	4001 Jan 23 20:59	5° \approx 17'46	6.22962 AU	minimum elong	4006 Jul 24 23:08	3° \mathcal{Q} 51'56	0°02'53
				behind sun begin	4006 Jul 24 14:46	3° \mathcal{Q} 47'10	
conjunction	4001 Jan 25 20:36	5° \approx 45'03	0°-4'-57	behind sun end	4006 Jul 25 07:29	3° \mathcal{Q} 56'42	
minimum elong	4001 Jan 25 20:36	5° \approx 45'04	0°04'57	max. Earth dist.	4006 Jul 27 04:41	4° \mathcal{Q} 22'38	6.14266 AU
behind sun begin	4001 Jan 25 12:50	5° \approx 40'38		morning rise	4006 Aug 07 17:18	7° \mathcal{Q} 00'37	
behind sun end	4001 Jan 26 04:23	5° \approx 49'30			4006 Sep 13 11:19	15° \mathcal{Q}	
morning rise	4001 Feb 07 13:02	8° \approx 39'26		retrograde	4006 Dec 12 06:45	25° \mathcal{Q} 46'40	
	4001 Mar 08 04:55	15° \approx		min. Earth dist.	4007 Feb 08 20:01	20° \mathcal{Q} 53'29	4.21950 AU
retrograde	4001 Jun 13 06:44	27° \approx 10'00		opposition	4007 Feb 10 01:00	20° \mathcal{Q} 43'43	0°29'35
opposition	4001 Aug 13 00:22	22° \approx 16'03	0°-32'-11	direct	4007 Apr 10 16:33	15° \mathcal{Q} 42'58	
min. Earth dist.	4001 Aug 14 04:56	22° \approx 06'51	4.15290 AU		4007 Jul 27 16:06	0° \mathbb{P}	
direct	4001 Oct 12 19:29	17° \approx 19'29		evening set	4007 Aug 15 08:43	4° \mathbb{P} 03'24	
	4002 Jan 18 23:00	0° \mathcal{H}					
evening set	4002 Feb 15 05:46	6° \mathcal{H} 13'06		conjunction	4007 Aug 28 22:53	7° \mathbb{P} 03'58	0°35'15
max. Earth dist.	4002 Feb 26 19:36	8° \mathcal{H} 57'13	6.08003 AU	minimum elong	4007 Aug 28 22:51	7° \mathbb{P} 03'57	0°35'14
				max. Earth dist.	4007 Aug 30 06:54	7° \mathbb{P} 21'44	6.29491 AU
conjunction	4002 Feb 28 00:51	9° \mathcal{H} 14'33	0°-37'-5	morning rise	4007 Sep 11 11:57	10° \mathbb{P} 03'41	
minimum elong	4002 Feb 28 00:50	9° \mathcal{H} 14'32	0°37'06	retrograde	4008 Jan 12 18:32	27° \mathbb{P} 43'57	
morning rise	4002 Mar 12 21:07	12° \mathcal{H} 16'52		opposition	4008 Mar 12 19:30	22° \mathbb{P} 44'22	1°08'49
	4002 Jun 14 11:38	0° Υ		min. Earth dist.	4008 Mar 12 07:24	22° \mathbb{P} 48'22	4.36098 AU
retrograde	4002 Jul 20 06:11	1° Υ 58'35		direct	4008 May 12 20:44	17° \mathbb{P} 42'07	
	4002 Aug 25 03:09	30° \mathbb{R} \mathcal{H}			4008 Aug 21 09:01	0° \mathcal{L}	
opposition	4002 Sep 18 13:12	27° \mathcal{H} 01'36	-1°-14'-18	evening set	4008 Sep 16 10:14	5° \mathcal{L} 27'44	
min. Earth dist.	4002 Sep 18 23:08	26° \mathcal{H} 58'20	4.01581 AU				
direct	4002 Nov 16 21:50	22° \mathcal{H} 07'07		conjunction	4008 Sep 29 18:00	8° \mathcal{L} 20'43	0°55'38
	4003 Jan 29 00:14	0° Υ		minimum elong	4008 Sep 29 17:59	8° \mathcal{L} 20'42	0°55'38
evening set	4003 Mar 22 11:07	11° Υ 39'23		max. Earth dist.	4008 Sep 29 22:25	8° \mathcal{L} 23'06	6.41465 AU
				morning rise	4008 Oct 12 23:24	11° \mathcal{L} 12'25	
conjunction	4003 Apr 04 11:49	14° Υ 48'16	0°-57'-21	retrograde	4009 Feb 10 21:44	28° \mathcal{L} 08'38	
minimum elong	4003 Apr 04 11:48	14° Υ 48'15	0°57'22	opposition	4009 Apr 12 08:27	23° \mathcal{L} 12'34	1°26'45
max. Earth dist.	4003 Apr 04 14:44	14° Υ 50'01	5.96820 AU	min. Earth dist.	4009 Apr 12 14:24	23° \mathcal{L} 10'38	4.45184 AU
morning rise	4003 Apr 17 14:50	17° Υ 58'36		direct	4009 Jun 13 11:03	18° \mathcal{L} 10'01	
	4003 Jun 10 15:08	0° \mathcal{B}			4009 Sep 20 19:37	0° \mathbb{M}	
retrograde	4003 Aug 27 14:26	8° \mathcal{B} 33'25		evening set	4009 Oct 17 19:48	5° \mathbb{M} 36'06	
opposition	4003 Oct 26 10:57	3° \mathcal{B} 32'41	-1°-29'-49				
min. Earth dist.	4003 Oct 25 21:33	3° \mathcal{B} 37'10	3.94225 AU	conjunction	4009 Oct 30 20:51	8° \mathbb{M} 24'15	1°00'03

minimum elong	4009 Oct 30 20:51	8° \mathbb{M} 24'15	1°00'03		4015 May 21 21:05	0° \mathcal{B}	
max. Earth dist.	4009 Oct 29 21:53	8° \mathbb{M} 11'53	6.46965 AU	retrograde	4015 Sep 01 23:19	13° \mathcal{B} 52'38	
morning rise	4009 Nov 12 19:12	11° \mathbb{M} 11'08		opposition	4015 Oct 31 18:44	8° \mathcal{B} 51'22	-1°-29'-3
	4009 Nov 30 22:05	15° \mathbb{M}		min. Earth dist.	4015 Oct 31 01:24	8° \mathcal{B} 57'11	3.93353 AU
retrograde	4010 Mar 12 21:17	27° \mathbb{M} 51'23		direct	4015 Dec 28 20:03	3° \mathcal{B} 57'28	
opposition	4010 May 12 14:53	22° \mathbb{M} 58'01	1°21'25		4016 Mar 25 12:44	15° \mathcal{B}	
min. Earth dist.	4010 May 13 14:53	22° \mathbb{M} 50'19	4.46871 AU	evening set	4016 May 02 20:14	23° \mathcal{B} 50'09	
direct	4010 Jul 14 08:37	17° \mathbb{M} 56'01					
	4010 Oct 22 19:14	0° \mathcal{A}		conjunction	4016 May 16 06:07	27° \mathcal{B} 04'43	0°-53'-34
evening set	4010 Nov 17 08:14	5° \mathcal{A} 21'07		minimum elong	4016 May 16 06:08	27° \mathcal{B} 04'44	0°53'35
max. Earth dist.	4010 Nov 28 07:52	7° \mathcal{A} 44'04	6.44650 AU	max. Earth dist.	4016 May 17 22:34	27° \mathcal{B} 29'12	5.93885 AU
					4016 May 28 08:14	0° \mathbb{I}	
conjunction	4010 Nov 30 04:10	8° \mathcal{A} 08'10	0°48'25	morning rise	4016 May 29 18:50	0° \mathbb{I} 20'46	
minimum elong	4010 Nov 30 04:12	8° \mathcal{A} 08'11	0°48'25	retrograde	4016 Oct 08 21:37	20° \mathbb{I} 59'50	
morning rise	4010 Dec 12 21:52	10° \mathcal{A} 54'14		min. Earth dist.	4016 Dec 06 01:31	16° \mathbb{I} 06'45	3.97017 AU
retrograde	4011 Apr 12 16:03	27° \mathcal{A} 48'05		opposition	4016 Dec 07 10:15	15° \mathbb{I} 55'36	-1°-3'-38
opposition	4011 Jun 12 13:56	22° \mathcal{A} 55'55	0°54'31	direct	4017 Feb 03 07:58	10° \mathbb{I} 59'51	
min. Earth dist.	4011 Jun 14 01:27	22° \mathcal{A} 44'35	4.40713 AU		4017 Jun 07 03:06	0° \mathcal{E}	
direct	4011 Aug 14 05:55	17° \mathcal{A} 55'10		evening set	4017 Jun 09 14:48	0° \mathcal{E} 35'03	
	4011 Nov 21 14:11	0° \mathcal{E}					
evening set	4011 Dec 17 21:48	5° \mathcal{E} 38'20		conjunction	4017 Jun 23 07:02	3° \mathcal{E} 48'43	0°-27'-27
max. Earth dist.	4011 Dec 28 11:08	7° \mathcal{E} 59'01	6.35074 AU	minimum elong	4017 Jun 23 07:03	3° \mathcal{E} 48'44	0°27'28
				max. Earth dist.	4017 Jun 25 16:39	4° \mathcal{E} 22'46	6.02145 AU
conjunction	4011 Dec 30 15:07	8° \mathcal{E} 28'00	0°23'23	morning rise	4017 Jul 07 01:16	7° \mathcal{E} 03'11	
minimum elong	4011 Dec 30 15:08	8° \mathcal{E} 28'01	0°23'23	retrograde	4017 Nov 13 15:05	26° \mathcal{E} 50'28	
morning rise	4012 Jan 12 06:45	11° \mathcal{E} 17'08		min. Earth dist.	4018 Jan 10 16:24	21° \mathcal{E} 58'14	4.08890 AU
retrograde	4012 May 14 04:54	28° \mathcal{E} 53'12		opposition	4018 Jan 12 05:00	21° \mathcal{E} 45'47	0°-14'-39
opposition	4012 Jul 14 02:55	24° \mathcal{E} 00'45	0°11'06	direct	4018 Mar 11 18:58	16° \mathcal{E} 47'10	
min. Earth dist.	4012 Jul 15 16:12	23° \mathcal{E} 48'51	4.28230 AU	asc. node	4018 May 02 00:03	20° \mathcal{E} 48'57	
direct	4012 Sep 14 00:31	19° \mathcal{E} 02'02			4018 Jun 20 12:27	0° \mathcal{O}	
desc. node	4012 Oct 11 10:01	20° \mathcal{E} 10'20		evening set	4018 Jul 16 08:36	5° \mathcal{O} 43'43	
	4012 Dec 15 00:07	0° \approx					
evening set	4013 Jan 17 11:42	7° \approx 19'42		conjunction	4018 Jul 30 01:56	8° \mathcal{O} 51'18	0°07'57
max. Earth dist.	4013 Jan 28 05:05	9° \approx 47'34	6.20655 AU	minimum elong	4018 Jul 30 01:55	8° \mathcal{O} 51'18	0°07'57
				behind sun begin	4018 Jul 29 18:28	8° \mathcal{O} 47'04	
conjunction	4013 Jan 30 04:41	10° \approx 15'00	0°-9'-30	behind sun end	4018 Jul 30 09:21	8° \mathcal{O} 55'31	
minimum elong	4013 Jan 30 04:40	10° \approx 14'59	0°09'31	max. Earth dist.	4018 Aug 01 04:40	9° \mathcal{O} 20'14	6.16531 AU
behind sun begin	4013 Jan 29 21:59	10° \approx 11'09		morning rise	4018 Aug 12 19:40	11° \mathcal{O} 58'43	
behind sun end	4013 Jan 30 11:21	10° \approx 18'49			4018 Aug 26 08:09	15° \mathcal{O}	
morning rise	4013 Feb 11 21:36	13° \approx 10'30			4018 Nov 28 04:09	0° \mathbb{P}	
	4013 Feb 19 21:43	15° \approx		retrograde	4018 Dec 16 21:16	0° \mathbb{P} 34'07	
	4013 May 14 06:26	0° \mathcal{H}			4019 Jan 04 10:25	30° \mathcal{R} \mathcal{O}	
retrograde	4013 Jun 18 04:56	1° \mathcal{H} 51'51		opposition	4019 Feb 14 15:53	25° \mathcal{O} 31'31	0°36'14
	4013 Jul 23 07:55	30° \mathcal{R} \approx		min. Earth dist.	4019 Feb 13 13:28	25° \mathcal{O} 40'25	4.24273 AU
opposition	4013 Aug 17 20:05	26° \approx 57'33	0°-38'-45	direct	4019 Apr 15 13:30	20° \mathcal{O} 30'25	
min. Earth dist.	4013 Aug 18 23:33	26° \approx 48'40	4.12819 AU		4019 Jul 09 05:42	0° \mathbb{P}	
direct	4013 Oct 17 10:52	22° \approx 01'12		evening set	4019 Aug 20 03:53	8° \mathbb{P} 44'33	
	4013 Dec 31 08:41	0° \mathcal{H}					
evening set	4014 Feb 19 21:38	11° \mathcal{H} 02'29		conjunction	4019 Sep 02 17:21	11° \mathbb{P} 43'53	0°39'01
				minimum elong	4019 Sep 02 17:19	11° \mathbb{P} 43'52	0°39'00
conjunction	4014 Mar 04 17:31	14° \mathcal{H} 05'17	0°-40'-48	max. Earth dist.	4019 Sep 03 23:01	12° \mathbb{P} 00'15	6.31667 AU
minimum elong	4014 Mar 04 17:29	14° \mathcal{H} 05'16	0°40'49	morning rise	4019 Sep 16 05:16	14° \mathbb{P} 42'14	
max. Earth dist.	4014 Mar 03 15:56	13° \mathcal{H} 50'03	6.05600 AU		4019 Dec 09 21:51	0° \mathcal{L}	
morning rise	4014 Mar 17 14:32	17° \mathcal{H} 09'02		retrograde	4020 Jan 17 00:51	2° \mathcal{L} 14'02	
	4014 May 16 05:28	0° \mathcal{Y}			4020 Feb 24 02:23	30° \mathcal{R} \mathbb{P}	
retrograde	4014 Jul 25 12:21	7° \mathcal{Y} 02'05		opposition	4020 Mar 17 04:11	27° \mathbb{P} 14'59	1°12'43
opposition	4014 Sep 23 16:50	2° \mathcal{Y} 04'41	-1°-18'-22	min. Earth dist.	4020 Mar 16 17:46	27° \mathbb{P} 18'25	4.37962 AU
min. Earth dist.	4014 Sep 23 23:53	2° \mathcal{Y} 02'22	3.99495 AU	direct	4020 May 17 08:48	22° \mathbb{P} 12'39	
	4014 Oct 10 00:14	30° \mathcal{R} \mathcal{H}			4020 Aug 02 11:25	0° \mathcal{L}	
direct	4014 Nov 21 19:26	27° \mathcal{H} 10'28		evening set	4020 Sep 20 22:20	9° \mathcal{L} 53'49	
	4015 Jan 02 18:19	0° \mathcal{Y}					
evening set	4015 Mar 27 12:21	16° \mathcal{Y} 49'21		conjunction	4020 Oct 04 04:57	12° \mathcal{L} 45'48	0°57'15
				minimum elong	4020 Oct 04 04:56	12° \mathcal{L} 45'48	0°57'15
conjunction	4015 Apr 09 14:00	19° \mathcal{Y} 59'27	0°-58'-31	max. Earth dist.	4020 Oct 04 04:17	12° \mathcal{L} 45'26	6.42870 AU
minimum elong	4015 Apr 09 13:59	19° \mathcal{Y} 59'27	0°58'33	morning rise	4020 Oct 17 09:18	15° \mathcal{L} 36'32	
max. Earth dist.	4015 Apr 09 20:19	20° \mathcal{Y} 03'18	5.95243 AU		4021 Jan 05 14:39	0° \mathbb{M}	
morning rise	4015 Apr 22 18:26	23° \mathcal{Y} 11'08		retrograde	4021 Feb 15 03:22	2° \mathbb{M} 28'14	

	4021 Mar 27 18:10	30°♈		morning rise	4026 Mar 22 13:54	22°♏15'56	
opposition	4021 Apr 16 14:19	27°♈32'40	1°27'22		4026 Apr 25 08:35	0°♏	
min. Earth dist.	4021 Apr 17 00:01	27°♈29'32	4.46052 AU	retrograde	4026 Jul 30 21:07	12°♏18'28	
direct	4021 Jun 17 21:03	22°♈30'08		opposition	4026 Sep 29 01:11	7°♏20'30	-1°-21'-59
	4021 Sep 02 02:27	0°♏		min. Earth dist.	4026 Sep 29 03:57	7°♏19'36	3.98013 AU
evening set	4021 Oct 22 03:13	9°♏54'31		direct	4026 Nov 26 23:12	2°♏26'28	
max. Earth dist.	4021 Nov 03 00:32	12°♏27'45	6.47221 AU	evening set	4027 Apr 01 17:18	22°♏09'18	
conjunction	4021 Nov 04 03:28	12°♏42'15	0°59'20	conjunction	4027 Apr 14 20:11	25°♏20'18	0°-59'-18
minimum elong	4021 Nov 04 03:28	12°♏42'16	0°59'20	minimum elong	4027 Apr 14 20:11	25°♏20'18	0°59'19
	4021 Nov 14 19:24	15°♏		max. Earth dist.	4027 Apr 15 09:25	25°♏28'20	5.94449 AU
morning rise	4021 Nov 17 01:00	15°♏28'44		morning rise	4027 Apr 28 01:37	28°♏32'50	
	4022 Feb 07 07:13	0°♏			4027 May 04 02:45	0°♏	
retrograde	4022 Mar 17 02:14	2°♏08'51			4027 Jul 16 06:10	15°♏	
	4022 Apr 24 03:02	30°♏		retrograde	4027 Sep 07 11:18	19°♏17'12	
opposition	4022 May 16 21:10	27°♏15'43	1°18'49		4027 Oct 31 15:19	15°♏	
min. Earth dist.	4022 May 17 22:56	27°♏07'28	4.46522 AU	min. Earth dist.	4027 Nov 05 08:42	14°♏22'02	3.93367 AU
direct	4022 Jul 18 15:03	22°♏13'49		opposition	4027 Nov 06 04:23	14°♏15'24	-1°-27'-32
	4022 Oct 04 09:49	0°♏		direct	4028 Jan 03 04:45	9°♏21'22	
evening set	4022 Nov 21 14:16	9°♏40'18			4028 Mar 03 04:39	15°♏	
max. Earth dist.	4022 Dec 02 12:23	12°♏02'45	6.43719 AU	evening set	4028 May 08 04:42	29°♏12'42	
					4028 May 11 11:20	0°♏	
conjunction	4022 Dec 04 09:46	12°♏27'31	0°45'35	conjunction	4028 May 21 15:33	2°♏27'22	0°-50'-57
minimum elong	4022 Dec 04 09:48	12°♏27'32	0°45'36	minimum elong	4028 May 21 15:35	2°♏27'23	0°50'58
morning rise	4022 Dec 17 02:54	15°♏13'46		max. Earth dist.	4028 May 23 12:04	2°♏54'14	5.94693 AU
	4023 Mar 09 18:21	0°♏		morning rise	4028 Jun 04 05:22	5°♏43'29	
retrograde	4023 Apr 17 02:11	2°♏11'52		retrograde	4028 Oct 14 00:56	26°♏16'36	
	4023 May 25 18:23	30°♏		min. Earth dist.	4028 Dec 11 03:18	21°♏24'01	3.98534 AU
opposition	4023 Jun 17 00:25	27°♏19'48	0°49'13	opposition	4028 Dec 12 14:17	21°♏12'07	0°-57'-39
min. Earth dist.	4023 Jun 18 13:17	27°♏08'04	4.39245 AU	direct	4029 Feb 08 12:30	16°♏15'58	
direct	4023 Aug 18 15:02	22°♏19'18			4029 May 20 16:50	0°♏	
	4023 Nov 02 23:18	0°♏		evening set	4029 Jun 14 20:47	5°♏45'27	
evening set	4023 Dec 22 06:02	10°♏06'39					
max. Earth dist.	4024 Jan 01 17:14	12°♏26'50	6.33170 AU	conjunction	4029 Jun 28 13:21	8°♏58'19	0°-22'-42
conjunction	4024 Jan 03 23:02	12°♏56'58	0°19'03	minimum elong	4029 Jun 28 13:23	8°♏58'20	0°22'44
minimum elong	4024 Jan 03 23:03	12°♏56'58	0°19'03	max. Earth dist.	4029 Jun 30 22:19	9°♏31'48	6.04206 AU
morning rise	4024 Jan 16 14:50	15°♏46'53		morning rise	4029 Jul 12 07:54	12°♏11'54	
	4024 Mar 31 00:13	0°♏			4029 Oct 15 17:58	0°♏	
retrograde	4024 May 18 23:43	3°♏31'20		retrograde	4029 Nov 18 09:50	1°♏48'19	
	4024 Jul 08 02:30	30°♏			4029 Dec 21 19:28	30°♏	
opposition	4024 Jul 18 20:25	28°♏38'42	0°04'08	min. Earth dist.	4030 Jan 15 13:14	26°♏55'43	4.11242 AU
min. Earth dist.	4024 Jul 20 09:14	28°♏26'55	4.26000 AU	opposition	4030 Jan 17 00:26	26°♏43'44	0°-7'-11
desc. node	4024 Aug 20 21:22	24°♏54'59		asc. node	4030 Mar 12 01:26	21°♏46'58	
direct	4024 Sep 18 14:18	23°♏40'13		direct	4030 Mar 16 19:44	21°♏44'40	
	4024 Nov 24 20:03	0°♏			4030 Jun 01 07:21	0°♏	
evening set	4025 Jan 22 01:29	12°♏04'21		evening set	4030 Jul 21 07:31	10°♏33'58	
max. Earth dist.	4025 Feb 01 22:15	14°♏34'53	6.18296 AU				
conjunction	4025 Feb 03 18:51	15°♏00'44	0°-14'-16	conjunction	4030 Aug 04 00:40	13°♏40'21	0°12'46
minimum elong	4025 Feb 03 18:51	15°♏00'43	0°14'17	minimum elong	4030 Aug 04 00:39	13°♏40'20	0°12'47
behind sun begin	4025 Feb 03 14:54	14°♏58'26		behind sun begin	4030 Aug 03 19:36	13°♏37'29	
behind sun end	4025 Feb 03 22:48	15°♏03'00		behind sun end	4030 Aug 04 05:42	13°♏43'11	
	4025 Feb 03 17:37	15°♏		max. Earth dist.	4030 Aug 06 02:17	14°♏08'29	6.18975 AU
morning rise	4025 Feb 16 12:03	17°♏57'22			4030 Aug 09 21:10	15°♏	
	4025 Apr 14 17:46	0°♏		morning rise	4030 Aug 17 17:40	16°♏46'22	
retrograde	4025 Jun 23 08:19	6°♏49'29		retrograde	4030 Oct 22 19:50	0°♏	
opposition	4025 Aug 22 21:45	1°♏54'52	0°-45'-25		4030 Dec 21 07:05	5°♏11'06	
min. Earth dist.	4025 Aug 23 23:03	1°♏46'41	4.10536 AU	min. Earth dist.	4031 Feb 18 02:18	0°♏17'17	4.26584 AU
	4025 Sep 07 01:53	30°♏		opposition	4031 Feb 19 03:04	0°♏08'58	0°42'24
direct	4025 Oct 22 06:42	26°♏58'55			4031 Feb 20 05:47	30°♏	
	4025 Dec 05 11:32	0°♏		direct	4031 Apr 20 04:40	25°♏07'39	
evening set	4026 Feb 24 19:26	16°♏06'57		evening set	4031 Jun 17 12:08	0°♏	
					4031 Aug 24 19:17	13°♏15'48	
conjunction	4026 Mar 09 15:50	19°♏10'54	0°-44'-24	conjunction	4031 Sep 07 07:42	16°♏13'53	0°42'25
minimum elong	4026 Mar 09 15:48	19°♏10'53	0°44'25	minimum elong	4031 Sep 07 07:40	16°♏13'52	0°42'25
max. Earth dist.	4026 Mar 08 17:17	18°♏57'25	6.03601 AU	max. Earth dist.	4031 Sep 08 07:29	16°♏26'58	6.33655 AU

morning rise	4031 Sep 20 18:44	19° \mathbb{M} 11'01		conjunction	4037 Feb 08 10:27	19° \approx 50'28	0°-18'-59
	4031 Nov 13 18:08	0° $\underline{\Delta}$		minimum elong	4037 Feb 08 10:26	19° \approx 50'27	0°19'01
retrograde	4032 Jan 21 06:26	6° $\underline{\Delta}$ 35'31		morning rise	4037 Feb 21 04:18	22° \approx 48'17	
opposition	4032 Mar 21 10:03	1° $\underline{\Delta}$ 36'59	1°16'06		4037 Mar 25 08:56	0° \mathbb{H}	
min. Earth dist.	4032 Mar 21 03:28	1° $\underline{\Delta}$ 39'10	4.39502 AU	retrograde	4037 Jun 28 12:16	11° \mathbb{H} 50'45	
	4032 Apr 02 21:44	30° \mathbb{R} \mathbb{M}		opposition	4037 Aug 28 01:07	6° \mathbb{H} 55'42	0°-51'-50
direct	4032 May 21 19:25	26° \mathbb{M} 34'32		min. Earth dist.	4037 Aug 28 22:41	6° \mathbb{H} 48'41	4.08551 AU
	4032 Jul 09 21:41	0° $\underline{\Delta}$		direct	4037 Oct 27 04:32	2° \mathbb{H} 00'07	
evening set	4032 Sep 25 07:25	14° $\underline{\Delta}$ 12'26		evening set	4038 Mar 01 17:56	21° \mathbb{H} 13'34	
conjunction	4032 Oct 08 13:17	17° $\underline{\Delta}$ 03'42	0°58'30	conjunction	4038 Mar 14 15:08	24° \mathbb{H} 18'32	0°-47'-41
minimum elong	4032 Oct 08 13:16	17° $\underline{\Delta}$ 03'42	0°58'30	minimum elong	4038 Mar 14 15:06	24° \mathbb{H} 18'31	0°47'42
max. Earth dist.	4032 Oct 08 09:25	17° $\underline{\Delta}$ 01'37	6.43851 AU	max. Earth dist.	4038 Mar 13 22:51	24° \mathbb{H} 08'46	6.02031 AU
morning rise	4032 Oct 21 16:30	19° $\underline{\Delta}$ 53'38		morning rise	4038 Mar 27 13:53	27° \mathbb{H} 24'36	
	4032 Dec 11 16:11	0° \mathbb{M}			4038 Apr 07 12:50	0° \mathbb{Y}	
retrograde	4033 Feb 19 05:45	6° \mathbb{M} 42'25		retrograde	4038 Aug 05 07:44	17° \mathbb{Y} 34'41	
opposition	4033 Apr 20 18:27	1° \mathbb{M} 47'18	1°27'32	opposition	4038 Oct 04 09:22	12° \mathbb{Y} 36'13	-1°-24'-55
min. Earth dist.	4033 Apr 21 05:59	1° \mathbb{M} 43'33	4.46443 AU	min. Earth dist.	4038 Oct 04 09:26	12° \mathbb{Y} 36'12	3.97028 AU
	4033 May 04 21:27	30° \mathbb{R} $\underline{\Delta}$		direct	4038 Dec 02 04:24	7° \mathbb{Y} 42'20	
direct	4033 Jun 22 02:13	26° $\underline{\Delta}$ 44'50		evening set	4039 Apr 06 21:47	27° \mathbb{Y} 27'13	
	4033 Aug 09 10:03	0° \mathbb{M}			4039 Apr 17 09:41	0° \mathcal{B}	
evening set	4033 Oct 26 09:06	14° \mathbb{M} 09'02		conjunction	4039 Apr 20 01:35	0° \mathcal{B} 38'50	0°-59'-34
	4033 Oct 30 08:11	15° \mathbb{M}		minimum elong	4039 Apr 20 01:35	0° \mathcal{B} 38'50	0°59'35
max. Earth dist.	4033 Nov 07 01:53	16° \mathbb{M} 40'02	6.46993 AU	max. Earth dist.	4039 Apr 20 19:01	0° \mathcal{B} 49'26	5.94117 AU
conjunction	4033 Nov 08 08:31	16° \mathbb{M} 56'34	0°58'19	morning rise	4039 May 03 08:17	3° \mathcal{B} 52'04	
minimum elong	4033 Nov 08 08:32	16° \mathbb{M} 56'34	0°58'19		4039 Jun 21 15:11	15° \mathcal{B}	
morning rise	4033 Nov 21 05:24	19° \mathbb{M} 42'53		retrograde	4039 Sep 12 18:13	24° \mathcal{B} 37'08	
	4034 Jan 12 08:19	0° \mathcal{A}		opposition	4039 Nov 11 11:28	19° \mathcal{B} 34'52	-1°-25'-16
retrograde	4034 Mar 21 09:16	6° \mathcal{A} 24'37		min. Earth dist.	4039 Nov 10 12:13	19° \mathcal{B} 42'42	3.93752 AU
opposition	4034 May 21 03:40	1° \mathcal{A} 31'48	1°15'52		4039 Dec 25 18:32	15° \mathbb{R} \mathcal{B}	
min. Earth dist.	4034 May 22 08:16	1° \mathcal{A} 22'39	4.45696 AU	direct	4040 Jan 08 09:16	14° \mathcal{B} 40'40	
	4034 Jun 02 07:03	30° \mathbb{R} \mathbb{M}			4040 Jan 22 01:41	15° \mathcal{B}	
direct	4034 Jul 22 22:27	26° \mathbb{M} 30'06			4040 Apr 24 09:28	0° \mathbb{I}	
	4034 Sep 11 02:50	0° \mathcal{A}		evening set	4040 May 13 10:57	4° \mathbb{I} 29'43	
evening set	4034 Nov 25 20:13	13° \mathcal{A} 59'20		conjunction	4040 May 26 22:43	7° \mathbb{I} 44'21	0°-47'-57
max. Earth dist.	4034 Dec 06 15:05	16° \mathcal{A} 20'31	6.42353 AU	minimum elong	4040 May 26 22:45	7° \mathbb{I} 44'22	0°47'59
conjunction	4034 Dec 08 15:17	16° \mathcal{A} 46'55	0°42'32	max. Earth dist.	4040 May 28 21:18	8° \mathbb{I} 12'23	5.95733 AU
minimum elong	4034 Dec 08 15:19	16° \mathcal{A} 46'56	0°42'32	morning rise	4040 Jun 09 13:26	11° \mathbb{I} 00'21	
morning rise	4034 Dec 21 08:11	19° \mathcal{A} 33'36			4040 Sep 19 02:06	0° \mathcal{E}	
	4035 Feb 11 09:36	0° \mathcal{E}		retrograde	4040 Oct 19 01:56	1° \mathcal{E} 27'04	
retrograde	4035 Apr 21 14:00	6° \mathcal{E} 37'33			4040 Nov 17 20:51	30° \mathbb{R} \mathbb{I}	
opposition	4035 Jun 21 12:10	1° \mathcal{E} 45'31	0°43'38	min. Earth dist.	4040 Dec 16 04:17	26° \mathbb{I} 34'24	4.00095 AU
min. Earth dist.	4035 Jun 23 00:57	1° \mathcal{E} 33'47	4.37433 AU	opposition	4040 Dec 17 15:31	26° \mathbb{I} 22'23	0°-51'-20
	4035 Jul 05 14:32	30° \mathbb{R} \mathcal{A}		direct	4041 Feb 13 16:43	21° \mathbb{I} 25'50	
direct	4035 Aug 22 23:30	26° \mathcal{A} 45'18			4041 May 01 09:20	0° \mathcal{E}	
	4035 Oct 09 17:40	0° \mathcal{E}		evening set	4041 Jun 19 23:57	10° \mathcal{E} 49'52	
evening set	4035 Dec 26 15:26	14° \mathcal{E} 37'55		conjunction	4041 Jul 03 17:03	14° \mathcal{E} 02'03	0°-17'-53
max. Earth dist.	4036 Jan 06 04:33	16° \mathcal{E} 59'49	6.31067 AU	minimum elong	4041 Jul 03 17:04	14° \mathcal{E} 02'03	0°17'54
conjunction	4036 Jan 08 08:28	17° \mathcal{E} 29'03	0°14'35	max. Earth dist.	4041 Jul 06 03:15	14° \mathcal{E} 36'05	6.06150 AU
minimum elong	4036 Jan 08 08:28	17° \mathcal{E} 29'03	0°14'36	morning rise	4041 Jul 17 11:34	17° \mathcal{E} 14'43	
behind sun begin	4036 Jan 08 04:53	17° \mathcal{E} 27'02			4041 Sep 16 02:16	0° \mathcal{I}	
behind sun end	4036 Jan 08 12:04	17° \mathcal{E} 31'04		retrograde	4041 Nov 23 03:05	6° \mathcal{I} 41'12	
morning rise	4036 Jan 21 00:11	20° \mathcal{E} 19'49		min. Earth dist.	4042 Jan 20 07:17	1° \mathcal{I} 48'30	4.13362 AU
	4036 Mar 07 02:26	0° \approx		asc. node	4042 Jan 20 09:11	1° \mathcal{I} 47'51	
retrograde	4036 May 23 20:35	8° \approx 13'23		opposition	4042 Jan 21 17:32	1° \mathcal{I} 36'53	0°00'11
desc. node	4036 Jun 30 08:14	6° \approx 08'15			4042 Feb 02 20:29	30° \mathbb{R} \mathcal{E}	
opposition	4036 Jul 23 15:54	3° \approx 20'38	0°-2'-55	direct	4042 Mar 21 16:18	26° \mathcal{E} 37'28	
min. Earth dist.	4036 Jul 25 03:55	3° \approx 09'06	4.23748 AU		4042 May 07 12:23	0° \mathcal{I}	
	4036 Aug 21 08:31	30° \mathbb{R} \mathcal{E}			4042 Jul 24 15:56	15° \mathcal{I}	
direct	4036 Sep 23 05:34	28° \mathcal{E} 22'37		evening set	4042 Jul 26 04:56	15° \mathcal{I} 20'45	
	4036 Oct 25 21:15	0° \approx		conjunction	4042 Aug 08 21:30	18° \mathcal{I} 25'59	0°17'28
	4037 Jan 18 11:38	15° \approx		minimum elong	4042 Aug 08 21:29	18° \mathcal{I} 25'58	0°17'27
evening set	4037 Jan 26 16:57	16° \approx 53'05		max. Earth dist.	4042 Aug 10 18:50	18° \mathcal{I} 51'34	6.21082 AU
max. Earth dist.	4037 Feb 06 15:25	19° \approx 25'25	6.16084 AU				

morning rise	4042 Aug 22 14:03	21°♏30'50			4049 Jan 01 11:22	15°♏	
	4042 Oct 01 11:28	0°♏		evening set	4049 Jan 31 08:07	21°♏40'40	
retrograde	4042 Dec 25 16:01	9°♏46'24		max. Earth dist.	4049 Feb 11 11:30	24°♏16'23	6.14393 AU
opposition	4043 Feb 23 13:10	4°♏44'41	0°48'15				
min. Earth dist.	4043 Feb 22 15:01	4°♏52'07	4.28508 AU	conjunction	4049 Feb 13 01:56	24°♏38'52	0°-23'-31
	4043 Apr 11 14:27	30°♏		minimum elong	4049 Feb 13 01:55	24°♏38'51	0°23'32
direct	4043 Apr 24 19:06	29°♏43'06		morning rise	4049 Feb 25 20:04	27°♏37'32	
	4043 May 08 02:41	0°♏			4049 Mar 08 03:10	0°♏	
evening set	4043 Aug 29 09:54	17°♏46'39		retrograde	4049 Jul 03 15:35	16°♏48'11	
				opposition	4049 Sep 02 02:56	11°♏52'43	0°-57'-43
conjunction	4043 Sep 11 21:39	20°♏43'46	0°45'33	min. Earth dist.	4049 Sep 02 22:38	11°♏46'19	4.07124 AU
minimum elong	4043 Sep 11 21:37	20°♏43'45	0°45'34	direct	4049 Nov 01 03:14	6°♏57'26	
max. Earth dist.	4043 Sep 12 18:39	20°♏55'17	6.35259 AU	evening set	4050 Mar 06 14:43	26°♏14'17	
morning rise	4043 Sep 25 07:30	23°♏39'47					
	4043 Oct 25 10:50	0°♏		conjunction	4050 Mar 19 12:28	29°♏19'59	0°-50'-30
retrograde	4044 Jan 25 11:22	10°♏58'18		minimum elong	4050 Mar 19 12:27	29°♏19'58	0°50'32
opposition	4044 Mar 25 16:13	6°♏00'17	1°19'04	max. Earth dist.	4050 Mar 18 23:35	29°♏12'14	6.00990 AU
min. Earth dist.	4044 Mar 25 11:48	6°♏01'44	4.40689 AU		4050 Mar 22 07:04	0°♏	
direct	4044 May 26 04:36	0°♏57'47		morning rise	4050 Apr 01 12:12	2°♏26'56	
evening set	4044 Sep 29 17:00	18°♏33'21		retrograde	4050 Aug 10 12:06	22°♏42'11	
				opposition	4050 Oct 09 13:46	17°♏43'11	-1°-27'-1
conjunction	4044 Oct 12 21:47	21°♏23'57	0°59'27	min. Earth dist.	4050 Oct 09 09:47	17°♏44'30	3.96508 AU
minimum elong	4044 Oct 12 21:46	21°♏23'56	0°59'26	direct	4050 Dec 07 04:36	12°♏49'22	
max. Earth dist.	4044 Oct 12 12:33	21°♏18'58	6.44522 AU		4051 Apr 01 04:01	0°♏	
morning rise	4044 Oct 26 00:12	24°♏13'17		evening set	4051 Apr 11 22:38	2°♏34'50	
	4044 Nov 22 19:04	0°♏					
retrograde	4045 Feb 23 11:32	11°♏00'04		conjunction	4051 Apr 25 03:25	5°♏46'53	0°-59'-20
opposition	4045 Apr 25 00:05	6°♏05'19	1°27'15	minimum elong	4051 Apr 25 03:25	5°♏46'53	0°59'21
min. Earth dist.	4045 Apr 25 14:56	6°♏00'31	4.46586 AU	max. Earth dist.	4051 Apr 26 00:46	5°♏59'51	5.94155 AU
direct	4045 Jun 26 10:35	1°♏02'54		morning rise	4051 May 08 11:08	9°♏00'33	
	4045 Oct 14 06:52	15°♏			4051 Jun 02 22:29	15°♏	
evening set	4045 Oct 30 16:05	18°♏27'22		retrograde	4051 Sep 17 20:49	29°♏44'57	
max. Earth dist.	4045 Nov 11 06:13	20°♏57'08	6.46600 AU	opposition	4051 Nov 16 13:50	24°♏42'15	-1°-22'-23
				min. Earth dist.	4051 Nov 15 13:10	24°♏50'35	3.94341 AU
conjunction	4045 Nov 12 14:57	21°♏14'49	0°56'57	direct	4052 Jan 13 11:53	19°♏47'48	
minimum elong	4045 Nov 12 14:58	21°♏14'49	0°56'58		4052 Apr 06 09:40	0°♏	
morning rise	4045 Nov 25 11:02	24°♏01'01		evening set	4052 May 18 12:45	9°♏34'11	
	4045 Dec 24 05:20	0°♏					
retrograde	4046 Mar 25 15:53	10°♏44'40		conjunction	4052 Jun 01 01:35	12°♏48'46	0°-44'-43
opposition	4046 May 25 11:38	5°♏52'03	1°12'27	minimum elong	4052 Jun 01 01:37	12°♏48'47	0°44'43
min. Earth dist.	4046 May 26 16:44	5°♏42'45	4.44823 AU	max. Earth dist.	4052 Jun 03 03:20	13°♏18'36	5.96821 AU
direct	4046 Jul 27 04:53	0°♏50'33		morning rise	4052 Jun 14 17:00	16°♏04'36	
evening set	4046 Nov 30 03:39	18°♏22'25			4052 Aug 18 19:04	0°♏	
max. Earth dist.	4046 Dec 10 21:40	20°♏43'37	6.41083 AU	retrograde	4052 Oct 23 23:32	6°♏24'50	
				min. Earth dist.	4052 Dec 21 00:29	1°♏32'10	4.01561 AU
conjunction	4046 Dec 12 22:15	21°♏10'19	0°39'12	opposition	4052 Dec 22 11:45	1°♏20'09	0°-44'-56
minimum elong	4046 Dec 12 22:16	21°♏10'20	0°39'12		4053 Jan 01 10:14	30°♏	
morning rise	4046 Dec 25 14:50	23°♏57'24		direct	4053 Feb 18 14:44	26°♏23'16	
	4047 Jan 23 03:45	0°♏			4053 Apr 07 07:28	0°♏	
retrograde	4047 Apr 26 04:31	11°♏06'44		evening set	4053 Jun 24 23:17	15°♏42'49	
opposition	4047 Jun 26 01:38	6°♏14'44	0°37'43				
min. Earth dist.	4047 Jun 27 15:21	6°♏02'43	4.35847 AU	conjunction	4053 Jul 08 16:32	18°♏54'19	0°-13'-8
direct	4047 Aug 27 11:42	1°♏14'50		minimum elong	4053 Jul 08 16:33	18°♏54'20	0°13'09
evening set	4047 Dec 31 01:39	19°♏11'34		behind sun begin	4053 Jul 08 11:44	18°♏51'33	
max. Earth dist.	4048 Jan 10 14:45	21°♏34'04	6.29304 AU	behind sun end	4053 Jul 08 21:21	18°♏57'07	
				max. Earth dist.	4053 Jul 11 00:25	19°♏26'51	6.07851 AU
conjunction	4048 Jan 12 18:31	22°♏03'20	0°10'01	morning rise	4053 Jul 22 11:21	22°♏06'16	
minimum elong	4048 Jan 12 18:32	22°♏03'20	0°10'02		4053 Aug 27 03:28	0°♏	
behind sun begin	4048 Jan 12 12:05	21°♏59'42		retrograde	4053 Nov 27 15:14	11°♏24'11	
behind sun end	4048 Jan 13 01:00	22°♏06'58		asc. node	4053 Dec 02 10:24	11°♏21'51	
morning rise	4048 Jan 25 10:26	24°♏54'52		min. Earth dist.	4054 Jan 24 21:46	6°♏31'22	4.15132 AU
	4048 Feb 17 13:36	0°♏		opposition	4054 Jan 26 06:52	6°♏20'08	0°07'14
desc. node	4048 May 10 06:44	12°♏24'39		direct	4054 Mar 26 08:46	1°♏20'23	
retrograde	4048 May 28 15:58	12°♏56'18			4054 Jul 08 05:08	15°♏	
opposition	4048 Jul 28 11:49	8°♏03'16	0°-9'-58	evening set	4054 Jul 30 23:04	19°♏59'17	
min. Earth dist.	4048 Jul 29 21:19	7°♏52'31	4.21938 AU				
direct	4048 Sep 27 20:41	3°♏05'35		conjunction	4054 Aug 13 15:24	23°♏03'39	0°21'52

minimum elong	4054 Aug 13 15:23	23°♏03'38	0°21'52		4060 Jul 14 20:40	15°♊	
max. Earth dist.	4054 Aug 15 10:23	23°♏27'49	6.22801 AU	opposition	4060 Aug 02 06:39	12°♊43'58	0°-16'-57
morning rise	4054 Aug 27 07:12	26°♏07'27		min. Earth dist.	4060 Aug 03 15:57	12°♊33'17	4.19981 AU
	4054 Sep 13 23:11	0°♎		direct	4060 Oct 02 12:56	7°♊46'35	
retrograde	4054 Dec 30 00:27	14°♎15'38			4060 Dec 13 04:25	15°♊	
opposition	4055 Feb 27 21:20	9°♎14'28	0°53'35	evening set	4061 Feb 04 22:22	26°♊27'02	
min. Earth dist.	4055 Feb 27 01:36	9°♎21'04	4.30041 AU	max. Earth dist.	4061 Feb 16 03:41	29°♊04'35	6.12435 AU
direct	4055 Apr 29 07:18	4°♎12'47					
evening set	4055 Sep 02 22:52	22°♎13'06		conjunction	4061 Feb 17 16:31	29°♊26'12	0°-27'-55
				minimum elong	4061 Feb 17 16:30	29°♊26'11	0°27'55
conjunction	4055 Sep 16 09:42	25°♎09'22	0°48'20		4061 Feb 20 02:08	0°♋	
minimum elong	4055 Sep 16 09:40	25°♎09'21	0°48'20	morning rise	4061 Mar 02 11:18	2°♋25'57	
max. Earth dist.	4055 Sep 17 02:04	25°♎18'19	6.36491 AU	retrograde	4061 Jul 08 17:15	21°♋46'02	
morning rise	4055 Sep 29 18:45	28°♎04'32		opposition	4061 Sep 07 04:22	16°♋50'07	-1°-3'-17
	4055 Oct 08 16:58	0°♌		min. Earth dist.	4061 Sep 07 20:33	16°♋44'51	4.05342 AU
retrograde	4056 Jan 29 15:42	15°♌18'25		direct	4061 Nov 05 22:59	11°♋55'05	
opposition	4056 Mar 29 21:30	10°♌20'52	1°21'31		4062 Mar 06 02:42	0°♌	
min. Earth dist.	4056 Mar 29 19:34	10°♌21'30	4.41573 AU	evening set	4062 Mar 11 11:57	1°♌16'58	
direct	4056 May 30 12:59	5°♌18'21					
evening set	4056 Oct 04 01:39	22°♌52'26		conjunction	4062 Mar 24 10:29	4°♌23'39	0°-53'-1
				minimum elong	4062 Mar 24 10:28	4°♌23'38	0°53'02
conjunction	4056 Oct 17 05:45	25°♌42'33	1°00'01	max. Earth dist.	4062 Mar 24 02:04	4°♌18'35	5.99543 AU
minimum elong	4056 Oct 17 05:44	25°♌42'32	1°00'01	morning rise	4062 Apr 06 11:07	7°♌31'40	
max. Earth dist.	4056 Oct 16 18:39	25°♌36'33	6.45008 AU	retrograde	4062 Aug 15 19:45	27°♌53'55	
morning rise	4056 Oct 30 07:05	28°♌31'19		opposition	4062 Oct 14 19:23	22°♌54'20	-1°-28'-34
	4056 Nov 06 05:29	0°♍		min. Earth dist.	4062 Oct 14 13:05	22°♌56'26	3.95552 AU
retrograde	4057 Feb 14 08:55	15°♍		direct	4062 Dec 12 07:30	18°♌00'30	
	4057 Feb 27 15:13	15°♍16'37			4063 Mar 14 13:11	0°♍	
	4057 Mar 12 21:01	15°♍		evening set	4063 Apr 17 01:54	7°♍48'22	
opposition	4057 Apr 29 05:12	10°♍22'14	1°26'26				
min. Earth dist.	4057 Apr 29 21:22	10°♍17'01	4.46657 AU	conjunction	4063 Apr 30 07:56	11°♍01'09	0°-58'-39
direct	4057 Jun 30 16:40	5°♍19'58		minimum elong	4063 Apr 30 07:56	11°♍01'10	0°58'41
	4057 Sep 26 23:24	15°♍		max. Earth dist.	4063 May 01 10:31	11°♍17'18	5.93787 AU
evening set	4057 Nov 03 22:20	22°♍44'39		morning rise	4063 May 13 16:47	14°♍15'32	
max. Earth dist.	4057 Nov 15 08:15	25°♍12'23	6.46235 AU		4063 May 16 18:44	15°♍	
					4063 Jul 27 09:04	0°♎	
conjunction	4057 Nov 16 20:22	25°♍31'56	0°55'17	retrograde	4063 Sep 23 03:27	5°♎00'21	
minimum elong	4057 Nov 16 20:23	25°♍31'57	0°55'17	opposition	4063 Nov 21 18:36	29°♎57'17	-1°-18'-51
morning rise	4057 Nov 29 15:59	28°♍18'05		min. Earth dist.	4063 Nov 20 15:53	0°♎06'19	3.94625 AU
	4057 Dec 07 14:37	0°♏			4063 Nov 21 10:33	30°♎	
retrograde	4058 Mar 30 00:18	15°♏03'34		direct	4064 Jan 18 15:24	25°♏02'35	
opposition	4058 May 29 19:25	10°♏11'05	1°08'37		4064 Mar 14 15:43	0°♏	
min. Earth dist.	4058 May 31 02:42	10°♏01'05	4.44024 AU	evening set	4064 May 23 18:26	14°♏47'31	
direct	4058 Jul 31 13:37	5°♏09'43					
evening set	4058 Dec 04 09:42	22°♏43'40		conjunction	4064 Jun 06 08:03	18°♏02'05	0°-41'-2
max. Earth dist.	4058 Dec 15 02:40	25°♏04'42	6.39885 AU	minimum elong	4064 Jun 06 08:06	18°♏02'06	0°41'03
				max. Earth dist.	4064 Jun 08 10:40	18°♏32'21	5.97706 AU
conjunction	4058 Dec 17 04:01	25°♏31'53	0°35'39	morning rise	4064 Jun 20 00:30	21°♏17'53	
minimum elong	4058 Dec 17 04:02	25°♏31'54	0°35'39		4064 Jul 28 10:06	0°♐	
morning rise	4058 Dec 29 20:15	28°♏19'19		retrograde	4064 Oct 28 22:09	11°♐32'02	
	4059 Jan 06 13:02	0°♑		min. Earth dist.	4064 Dec 25 23:00	6°♐39'38	4.02948 AU
retrograde	4059 Apr 30 15:16	15°♑33'52		opposition	4064 Dec 27 11:21	6°♐27'14	0°-38'00
opposition	4059 Jun 30 13:50	10°♑41'44	0°31'35	direct	4065 Feb 23 15:57	1°♑29'55	
min. Earth dist.	4059 Jul 02 02:43	10°♑29'58	4.34299 AU	evening set	4065 Jun 30 02:22	20°♑45'04	
direct	4059 Aug 31 20:26	5°♑42'05					
evening set	4060 Jan 04 10:37	23°♑42'53		conjunction	4065 Jul 13 19:58	23°♑55'53	0°-8'-7
max. Earth dist.	4060 Jan 15 01:03	26°♑06'44	6.27507 AU	minimum elong	4065 Jul 13 19:59	23°♑55'54	0°08'08
				behind sun begin	4065 Jul 13 12:34	23°♑51'37	
conjunction	4060 Jan 17 03:25	26°♑35'20	0°05'25	behind sun end	4065 Jul 14 03:23	24°♑00'10	
minimum elong	4060 Jan 17 03:24	26°♑35'20	0°05'25	max. Earth dist.	4065 Jul 16 03:58	24°♑28'21	6.09641 AU
behind sun begin	4060 Jan 16 19:43	26°♑31'00		morning rise	4065 Jul 27 14:36	27°♑06'57	
behind sun end	4060 Jan 17 11:06	26°♑39'41			4065 Aug 09 07:10	0°♒	
morning rise	4060 Jan 29 19:22	29°♑27'38		asc. node	4065 Oct 12 03:37	12°♒17'22	
	4060 Feb 01 04:49	0°♓			4065 Nov 04 07:45	15°♒	
desc. node	4060 Mar 20 10:58	10°♓03'40		retrograde	4065 Dec 02 08:19	16°♒15'33	
	4060 Apr 21 15:35	15°♓			4065 Dec 30 01:45	15°♒	
retrograde	4060 Jun 02 12:20	17°♓37'16		opposition	4066 Jan 30 23:36	11°♒11'49	0°14'29

min. Earth dist.	4066 Jan 29 16:04	11°♏22'30	4.17147 AU	behind sun begin	4072 Jan 21 01:27	0°≈55'06	
direct	4066 Mar 31 06:02	6°♏11'48		behind sun end	4072 Jan 21 17:25	1°≈04'08	
	4066 Jun 19 09:41	15°♏		desc. node	4072 Jan 31 08:14	3°≈15'43	
evening set	4066 Aug 04 20:30	24°♏45'03		morning rise	4072 Feb 03 01:35	3°≈52'50	
					4072 Mar 27 06:39	15°≈	
conjunction	4066 Aug 18 12:13	27°♏48'15	0°26'18	retrograde	4072 Jun 07 04:35	22°≈11'53	
minimum elong	4066 Aug 18 12:12	27°♏48'14	0°26'17	opposition	4072 Aug 06 23:06	17°≈18'21	0°-23'-42
max. Earth dist.	4066 Aug 20 04:53	28°♏11'00	6.24897 AU	min. Earth dist.	4072 Aug 08 06:42	17°≈08'11	4.17682 AU
	4066 Aug 28 07:57	0°♐			4072 Aug 25 14:34	15°≈	
morning rise	4066 Sep 01 03:17	0°♐50'48		direct	4072 Oct 06 23:52	12°≈21'16	
retrograde	4067 Jan 03 07:54	18°♐49'51			4072 Nov 17 16:54	15°≈	
opposition	4067 Mar 04 07:26	13°♐49'07	0°58'46		4073 Feb 04 13:07	0°♑	
min. Earth dist.	4067 Mar 03 12:52	13°♐55'19	4.32077 AU	evening set	4073 Feb 09 11:12	1°♑08'47	
direct	4067 May 03 21:28	8°♐47'15		max. Earth dist.	4073 Feb 20 19:17	3°♑48'47	6.10055 AU
evening set	4067 Sep 07 13:04	26°♐42'18					
				conjunction	4073 Feb 22 05:46	4°♑09'08	0°-32'-2
conjunction	4067 Sep 20 22:58	29°♐37'25	0°50'54	minimum elong	4073 Feb 22 05:44	4°♑09'07	0°32'03
minimum elong	4067 Sep 20 22:56	29°♐37'24	0°50'54	morning rise	4073 Mar 07 01:13	7°♑10'13	
max. Earth dist.	4067 Sep 21 12:22	29°♐44'43	6.38334 AU	retrograde	4073 Jul 13 21:04	26°♑41'44	
	4067 Sep 22 16:23	0°♒		opposition	4073 Sep 12 05:00	21°♑45'25	-1°-8'-22
morning rise	4067 Oct 04 06:47	2°♒31'21		min. Earth dist.	4073 Sep 12 19:30	21°♑40'41	4.03078 AU
retrograde	4068 Feb 02 20:07	19°♒38'28		direct	4073 Nov 10 19:23	16°♑50'36	
opposition	4068 Apr 03 03:17	14°♒41'24	1°23'33		4074 Feb 17 06:47	0°♓	
min. Earth dist.	4068 Apr 03 03:52	14°♒41'13	4.43098 AU	evening set	4074 Mar 16 09:33	6°♓19'46	
direct	4068 Jun 03 23:18	9°♒38'54					
evening set	4068 Oct 08 09:23	27°♒09'04		conjunction	4074 Mar 29 09:11	9°♓27'48	0°-55'-6
				minimum elong	4074 Mar 29 09:10	9°♓27'48	0°55'06
conjunction	4068 Oct 21 12:23	29°♒58'21	1°00'17	max. Earth dist.	4074 Mar 29 05:27	9°♓25'33	5.97622 AU
minimum elong	4068 Oct 21 12:23	29°♒58'21	1°00'18	morning rise	4074 Apr 11 10:57	12°♓37'13	
max. Earth dist.	4068 Oct 20 20:42	29°♒49'54	6.46086 AU		4074 Jul 07 00:04	0°♔	
	4068 Oct 21 15:27	0°♔		retrograde	4074 Aug 21 04:29	3°♔08'12	
morning rise	4068 Nov 03 12:51	2°♔46'20			4074 Oct 05 18:02	30°♔♓	
	4069 Jan 06 23:33	15°♔		opposition	4074 Oct 20 01:49	28°♓08'12	-1°-29'-25
retrograde	4069 Mar 03 17:50	19°♔28'25		min. Earth dist.	4074 Oct 19 16:16	28°♓11'23	3.94209 AU
	4069 Apr 30 01:21	15°♔♓		direct	4074 Dec 17 09:02	23°♓14'27	
opposition	4069 May 03 09:07	14°♔34'19	1°25'12		4075 Feb 21 18:44	0°♕	
min. Earth dist.	4069 May 04 03:52	14°♔28'17	4.47232 AU	evening set	4075 Apr 22 07:18	13°♕06'27	
direct	4069 Jul 04 23:21	9°♔32'04			4075 Apr 30 02:39	15°♕	
	4069 Sep 07 00:00	15°♔					
evening set	4069 Nov 08 02:01	26°♔55'19		conjunction	4075 May 05 14:27	16°♕20'07	0°-57'-29
max. Earth dist.	4069 Nov 19 09:58	29°♔22'02	6.46255 AU	minimum elong	4075 May 05 14:28	16°♕20'08	0°57'30
				max. Earth dist.	4075 May 06 20:26	16°♕38'21	5.93141 AU
conjunction	4069 Nov 20 23:28	29°♔42'20	0°53'23	morning rise	4075 May 19 00:47	19°♕35'26	
minimum elong	4069 Nov 20 23:29	29°♔42'21	0°53'23		4075 Jul 03 19:26	0°♖	
	4069 Nov 22 08:06	0°♗		retrograde	4075 Sep 28 10:46	10°♖21'35	
morning rise	4069 Dec 03 18:13	2°♗28'11		min. Earth dist.	4075 Nov 25 19:26	5°♖28'13	3.94756 AU
retrograde	4070 Apr 03 02:58	19°♗14'30		opposition	4075 Nov 27 01:17	5°♖18'05	-1°-14'-35
opposition	4070 Jun 03 00:14	14°♗22'09	1°04'32	direct	4076 Jan 23 21:12	0°♖23'06	
min. Earth dist.	4070 Jun 04 08:41	14°♗11'48	4.43473 AU	evening set	4076 May 29 02:43	20°♖07'05	
direct	4070 Aug 04 17:56	9°♗20'59					
evening set	4070 Dec 08 12:49	26°♗56'27		conjunction	4076 Jun 11 17:25	23°♖21'42	0°-36'-57
max. Earth dist.	4070 Dec 19 02:54	29°♗16'20	6.38784 AU	minimum elong	4076 Jun 11 17:27	23°♖21'43	0°36'58
				max. Earth dist.	4076 Jun 13 23:47	23°♖54'08	5.98611 AU
conjunction	4070 Dec 21 06:36	29°♗44'55	0°32'02	morning rise	4076 Jun 25 10:28	26°♖37'21	
minimum elong	4070 Dec 21 06:37	29°♗44'55	0°32'03		4076 Jul 09 21:32	0°♗	
	4070 Dec 22 09:54	0°♘		retrograde	4076 Nov 03 00:26	16°♗44'52	
morning rise	4071 Jan 02 22:42	2°♘32'42		min. Earth dist.	4076 Dec 31 00:32	11°♗52'21	4.04484 AU
retrograde	4071 May 05 01:46	19°♘52'33		opposition	4077 Jan 01 12:48	11°♗39'59	0°-30'-39
opposition	4071 Jul 04 23:18	15°♘00'22	0°25'29	direct	4077 Feb 28 20:29	6°♗42'15	
min. Earth dist.	4071 Jul 06 13:53	14°♘48'04	4.32674 AU	evening set	4077 Jul 05 07:37	25°♗52'15	
direct	4071 Sep 05 04:46	10°♘00'55					
evening set	4072 Jan 08 16:32	28°♘06'20		conjunction	4077 Jul 19 01:18	29°♗02'11	0°-2'-59
	4072 Jan 17 00:50	0°≈		minimum elong	4077 Jul 19 01:17	29°♗02'11	0°03'00
max. Earth dist.	4072 Jan 19 06:51	0°≈30'47	6.25479 AU	behind sun begin	4077 Jul 18 16:56	28°♗57'23	
				behind sun end	4077 Jul 19 09:39	29°♗06'59	
conjunction	4072 Jan 21 09:26	0°≈59'37	0°00'53	max. Earth dist.	4077 Jul 21 09:25	29°♗34'33	6.11646 AU
minimum elong	4072 Jan 21 09:26	0°≈59'37	0°00'53		4077 Jul 23 05:35	0°♙	

morning rise	4077 Aug 01 19:49	2°♏12'13		desc. node	4083 Dec 10 17:31	25°♄28'16	
asc. node	4077 Aug 20 19:31	6°♏28'06			4083 Dec 31 22:34	0°♊	
	4077 Oct 02 19:07	15°♏		evening set	4084 Jan 13 04:30	2°♊45'01	
retrograde	4077 Dec 06 23:34	21°♏10'23		max. Earth dist.	4084 Jan 23 19:19	5°♊10'32	6.23203 AU
min. Earth dist.	4078 Feb 03 09:42	16°♏17'31	4.19387 AU				
opposition	4078 Feb 04 17:07	16°♏06'53	0°21'42	conjunction	4084 Jan 25 21:19	5°♊39'12	0°-3'-59
	4078 Feb 13 00:54	15°♏		minimum elong	4084 Jan 25 21:20	5°♊39'12	0°03'59
direct	4078 Apr 05 03:19	11°♏06'29		behind sun begin	4084 Jan 25 13:28	5°♊34'43	
	4078 May 26 04:55	15°♏		behind sun end	4084 Jan 26 05:13	5°♊43'42	
evening set	4078 Aug 09 18:34	29°♏33'18		morning rise	4084 Feb 07 13:53	8°♊33'29	
	4078 Aug 11 18:46	0°♎			4084 Mar 07 17:25	15°♊	
				retrograde	4084 Jun 12 06:14	27°♊02'54	
conjunction	4078 Aug 23 09:34	2°♎35'12	0°30'35	opposition	4084 Aug 11 22:29	22°♊09'02	0°-30'-43
minimum elong	4078 Aug 23 09:32	2°♎35'11	0°30'35	min. Earth dist.	4084 Aug 13 04:49	21°♊59'14	4.15318 AU
max. Earth dist.	4078 Aug 24 22:25	2°♎55'44	6.27160 AU	direct	4084 Oct 11 19:12	17°♊12'14	
morning rise	4078 Sep 05 23:43	5°♎36'23			4085 Jan 18 11:28	0°♋	
retrograde	4079 Jan 07 18:23	23°♎26'03		evening set	4085 Feb 14 06:17	6°♋06'41	
opposition	4079 Mar 08 18:20	18°♎25'47	1°03'37	max. Earth dist.	4085 Feb 25 19:02	8°♋50'11	6.07827 AU
min. Earth dist.	4079 Mar 08 02:57	18°♎30'54	4.34145 AU				
direct	4079 May 08 14:23	13°♎23'43		conjunction	4085 Feb 27 01:31	9°♋08'15	0°-36'-11
	4079 Sep 06 10:49	0°♌		minimum elong	4085 Feb 27 01:30	9°♋08'14	0°36'13
evening set	4079 Sep 12 03:30	1°♌13'28		morning rise	4085 Mar 11 21:39	12°♋10'37	
					4085 Jun 14 09:48	0°♍	
conjunction	4079 Sep 25 12:25	4°♌07'29	0°53'13	retrograde	4085 Jul 19 05:53	1°♍52'42	
minimum elong	4079 Sep 25 12:24	4°♌07'29	0°53'13		4085 Aug 23 03:53	30°♋	
max. Earth dist.	4079 Sep 25 21:58	4°♌12'41	6.40027 AU	opposition	4085 Sep 17 12:02	26°♋55'56	-1°-13'-14
morning rise	4079 Oct 08 19:07	7°♌00'17		min. Earth dist.	4085 Sep 17 23:01	26°♋52'20	4.01232 AU
retrograde	4080 Feb 07 00:20	24°♌01'30		direct	4085 Nov 15 20:13	22°♋01'27	
opposition	4080 Apr 07 09:54	19°♌04'51	1°25'10		4086 Jan 28 11:03	0°♍	
min. Earth dist.	4080 Apr 07 12:39	19°♌03'57	4.44322 AU	evening set	4086 Mar 21 12:48	11°♍35'53	
direct	4080 Jun 08 08:55	14°♌02'16					
	4080 Oct 05 17:15	0°♍		conjunction	4086 Apr 03 13:14	14°♍44'55	0°-56'-52
evening set	4080 Oct 12 18:17	1°♍29'44		minimum elong	4086 Apr 03 13:13	14°♍44'54	0°56'53
				max. Earth dist.	4086 Apr 03 13:39	14°♍45'10	5.96335 AU
conjunction	4080 Oct 25 20:23	4°♍18'23	1°00'16	morning rise	4086 Apr 16 16:15	17°♍55'27	
minimum elong	4080 Oct 25 20:23	4°♍18'23	1°00'16		4086 Jun 09 20:54	0°♎	
max. Earth dist.	4080 Oct 25 01:34	4°♍08'15	6.46752 AU	retrograde	4086 Aug 26 15:08	8°♎32'07	
morning rise	4080 Nov 07 19:48	7°♍05'44		opposition	4086 Oct 25 12:05	3°♎31'31	-1°-29'-33
	4080 Dec 16 17:05	15°♍		min. Earth dist.	4086 Oct 24 22:23	3°♎36'06	3.93668 AU
retrograde	4081 Mar 07 22:37	23°♍46'08			4086 Nov 24 00:59	30°♎	
opposition	4081 May 07 15:13	18°♍52'23	1°23'32	direct	4086 Dec 22 16:28	28°♎37'45	
min. Earth dist.	4081 May 08 12:40	18°♍45'30	4.47304 AU		4087 Jan 20 05:06	0°♏	
	4081 Jun 11 05:20	15°♎			4087 Apr 12 22:59	15°♏	
direct	4081 Jul 09 07:41	13°♎50'14		evening set	4087 Apr 27 15:36	18°♏30'25	
	4081 Aug 06 14:28	15°♎					
	4081 Nov 06 14:40	0°♐		conjunction	4087 May 11 00:02	21°♏44'31	0°-55'-51
evening set	4081 Nov 12 08:19	1°♐13'39		minimum elong	4087 May 11 00:03	21°♏44'32	0°55'51
max. Earth dist.	4081 Nov 23 11:17	3°♐37'58	6.45711 AU	max. Earth dist.	4087 May 12 12:16	22°♏06'30	5.93416 AU
				morning rise	4087 May 24 11:18	25°♏00'10	
conjunction	4081 Nov 25 05:01	4°♐00'36	0°51'09		4087 Jun 14 15:18	0°♑	
minimum elong	4081 Nov 25 05:02	4°♐00'36	0°51'09	retrograde	4087 Oct 03 19:05	15°♑43'16	
morning rise	4081 Dec 07 23:23	6°♐46'30		min. Earth dist.	4087 Dec 01 01:10	10°♑49'57	3.95820 AU
retrograde	4082 Apr 07 12:03	23°♐35'39		opposition	4087 Dec 02 08:15	10°♑39'23	-1°-9'-42
opposition	4082 Jun 07 09:27	18°♐43'22	0°59'59	direct	4088 Jan 29 05:21	5°♑44'05	
min. Earth dist.	4082 Jun 08 19:46	18°♐32'25	4.42345 AU	evening set	4088 Jun 03 10:28	25°♑23'33	
direct	4082 Aug 09 02:53	13°♐42'17					
	4082 Dec 06 15:50	0°♒		conjunction	4088 Jun 17 01:49	28°♑37'39	0°-32'-38
evening set	4082 Dec 12 19:56	1°♒20'58		minimum elong	4088 Jun 17 01:51	28°♑37'41	0°32'39
max. Earth dist.	4082 Dec 23 09:49	3°♒41'15	6.37155 AU	max. Earth dist.	4088 Jun 19 10:20	29°♑11'12	6.00337 AU
					4088 Jun 22 20:37	0°♓	
conjunction	4082 Dec 25 13:37	4°♒09'58	0°28'05	morning rise	4088 Jun 30 19:28	1°♓52'44	
minimum elong	4082 Dec 25 13:38	4°♒09'59	0°28'05	retrograde	4088 Nov 07 21:41	21°♓50'23	
morning rise	4083 Jan 07 05:24	6°♒58'19		min. Earth dist.	4089 Jan 04 22:22	16°♓58'13	4.06673 AU
retrograde	4083 May 09 16:10	24°♒25'16		opposition	4089 Jan 06 11:35	16°♓45'32	0°-23'-17
opposition	4083 Jul 09 14:26	19°♒32'59	0°18'53	direct	4089 Mar 05 21:28	11°♓47'25	
min. Earth dist.	4083 Jul 11 04:28	19°♒20'51	4.30644 AU	asc. node	4089 Jun 30 16:56	28°♓38'29	
direct	4083 Sep 09 16:13	14°♒33'49			4089 Jul 06 17:07	0°♑	

evening set	4089 Jul 10 09:31	0°♏50'18		min. Earth dist.	4095 Jul 15 21:04	23°♁58'19	4.28404 AU
				direct	4095 Sep 14 05:47	19°♁11'27	
conjunction	4089 Jul 24 02:59	3°♏59'03 0°02'08		desc. node	4095 Oct 20 03:04	21°♁06'59	
minimum elong	4089 Jul 24 02:57	3°♏59'02 0°02'08			4095 Dec 14 11:41	0°♁	
behind sun begin	4089 Jul 23 18:35	3°♏54'15		evening set	4096 Jan 17 17:56	7°♁29'02	
behind sun end	4089 Jul 24 11:20	4°♏03'49		max. Earth dist.	4096 Jan 28 12:20	9°♁57'19	6.20884 AU
max. Earth dist.	4089 Jul 26 08:14	4°♏29'35 6.14085 AU					
morning rise	4089 Aug 06 21:08	7°♏07'47		conjunction	4096 Jan 30 11:08	10°♁24'17	0°-8'-46
	4089 Sep 12 00:45	15°♏		minimum elong	4096 Jan 30 11:08	10°♁24'17	0°08'46
retrograde	4089 Dec 11 13:13	25°♏54'49		behind sun begin	4096 Jan 30 04:12	10°♁20'18	
min. Earth dist.	4090 Feb 08 02:31	21°♏01'22 4.21823 AU		behind sun end	4096 Jan 30 18:03	10°♁28'15	
opposition	4090 Feb 09 07:11	20°♏51'41 0°28'28		morning rise	4096 Feb 12 03:53	13°♁19'39	
direct	4090 Apr 09 23:23	15°♏50'58			4096 Feb 19 11:56	15°♁	
	4090 Jul 26 05:29	0°♎			4096 May 12 04:56	0°♎	
evening set	4090 Aug 14 12:34	4°♎11'08		retrograde	4096 Jun 17 08:54	1°♎59'31	
					4096 Jul 23 18:21	30°♎	
conjunction	4090 Aug 28 02:55	7°♎11'47 0°34'32		opposition	4096 Aug 16 23:53	27°♁05'21	0°-37'-36
minimum elong	4090 Aug 28 02:54	7°♎11'46 0°34'31		min. Earth dist.	4096 Aug 18 03:43	26°♁56'22	4.13110 AU
max. Earth dist.	4090 Aug 29 13:05	7°♎30'44 6.29396 AU		direct	4096 Oct 16 14:51	22°♁09'00	
morning rise	4090 Sep 10 16:01	10°♎11'35			4096 Dec 29 22:14	0°♎	
retrograde	4091 Jan 11 23:29	27°♎52'36		evening set	4097 Feb 19 03:16	11°♎09'38	
opposition	4091 Mar 13 01:36	22°♎52'54 1°07'55					
min. Earth dist.	4091 Mar 12 12:08	22°♎57'22 4.36025 AU		conjunction	4097 Mar 03 22:53	14°♎12'13	0°-40'-6
direct	4091 May 13 01:02	17°♎50'43		minimum elong	4097 Mar 03 22:51	14°♎12'12	0°40'06
	4091 Aug 20 20:38	0°♎		max. Earth dist.	4097 Mar 02 19:40	13°♎56'02	6.05923 AU
evening set	4091 Sep 16 14:37	5°♎36'13		morning rise	4097 Mar 16 19:55	17°♎15'47	
					4097 May 14 21:18	0°♎	
conjunction	4091 Sep 29 22:28	8°♎29'16 0°55'09		retrograde	4097 Jul 24 13:40	7°♎06'54	
minimum elong	4091 Sep 29 22:27	8°♎29'16 0°55'10		opposition	4097 Sep 22 19:36	2°♎09'34	-1°-17'-30
max. Earth dist.	4091 Sep 30 02:32	8°♎31'28 6.41408 AU		min. Earth dist.	4097 Sep 23 02:28	2°♎07'18	3.99823 AU
morning rise	4091 Oct 13 04:11	11°♎21'07			4097 Oct 09 20:02	30°♎	
retrograde	4092 Feb 11 05:00	28°♎17'54		direct	4097 Nov 20 23:26	27°♎15'16	
opposition	4092 Apr 11 14:30	23°♎21'48 1°26'18			4098 Jan 01 07:40	0°♎	
min. Earth dist.	4092 Apr 11 21:09	23°♎19'38 4.45133 AU		evening set	4098 Mar 26 16:21	16°♎53'11	
direct	4092 Jun 12 17:32	18°♎19'15					
	4092 Sep 19 05:49	0°♎		conjunction	4098 Apr 08 17:55	20°♎03'03	0°-58'-10
evening set	4092 Oct 17 00:49	5°♎45'25		minimum elong	4098 Apr 08 17:54	20°♎03'02	0°58'11
max. Earth dist.	4092 Oct 29 03:14	8°♎21'22 6.46922 AU		max. Earth dist.	4098 Apr 09 01:01	20°♎07'21	5.95559 AU
				morning rise	4098 Apr 21 21:51	23°♎14'23	
conjunction	4092 Oct 30 02:09	8°♎33'43 0°59'56			4098 May 20 19:06	0°♎	
minimum elong	4092 Oct 30 02:10	8°♎33'43 0°59'55		retrograde	4098 Sep 01 02:16	13°♎54'10	
morning rise	4092 Nov 12 00:47	11°♎20'43		opposition	4098 Oct 30 20:57	8°♎53'02	-1°-28'-53
	4092 Nov 29 09:07	15°♎		min. Earth dist.	4098 Oct 30 04:58	8°♎58'24	3.93618 AU
retrograde	4093 Mar 12 02:50	28°♎01'19		direct	4098 Dec 28 00:06	3°♎59'09	
opposition	4093 May 11 20:36	23°♎07'52 1°21'30			4099 Mar 25 13:33	15°♎	
min. Earth dist.	4093 May 12 19:52	23°♎00'24 4.46854 AU		evening set	4099 May 02 22:28	23°♎50'42	
direct	4093 Jul 13 13:08	18°♎05'50					
	4093 Oct 21 04:51	0°♎		conjunction	4099 May 16 07:53	27°♎05'00	0°-53'-45
evening set	4093 Nov 16 13:59	5°♎31'11		minimum elong	4099 May 16 07:55	27°♎05'01	0°53'46
max. Earth dist.	4093 Nov 27 15:17	7°♎54'57 6.44678 AU		max. Earth dist.	4099 May 17 23:31	27°♎28'59	5.94066 AU
					4099 May 28 09:42	0°♎	
conjunction	4093 Nov 29 10:15	8°♎18'20 0°48'40		morning rise	4099 May 29 20:21	0°♎20'49	
minimum elong	4093 Nov 29 10:16	8°♎18'21 0°48'41		retrograde	4099 Oct 08 22:13	20°♎59'12	
morning rise	4093 Dec 12 04:02	11°♎04'27		min. Earth dist.	4099 Dec 06 02:50	16°♎06'23	3.97107 AU
retrograde	4094 Apr 11 21:37	27°♎58'07		opposition	4099 Dec 07 12:15	15°♎55'02	-1°-4'-20
opposition	4094 Jun 11 19:11	23°♎06'02 0°55'07		direct	4100 Feb 03 09:10	10°♎59'22	
min. Earth dist.	4094 Jun 13 06:50	22°♎54'40 4.40791 AU			4100 Jun 07 05:59	0°♎	
direct	4094 Aug 13 11:21	18°♎05'15		evening set	4100 Jun 09 15:48	0°♎33'56	
	4094 Nov 20 00:20	0°♎					
evening set	4094 Dec 17 04:11	5°♎48'34		conjunction	4100 Jun 23 07:40	3°♎47'27	0°-28'-8
max. Earth dist.	4094 Dec 27 15:59	8°♎08'24 6.35199 AU		minimum elong	4100 Jun 23 07:42	3°♎47'28	0°28'09
				max. Earth dist.	4100 Jun 25 15:52	4°♎20'40	6.02124 AU
conjunction	4094 Dec 29 21:31	8°♎38'14 0°23'57		morning rise	4100 Jul 07 01:44	7°♎01'50	
minimum elong	4094 Dec 29 21:33	8°♎38'15 0°23'57		retrograde	4100 Nov 13 17:27	26°♎49'50	
morning rise	4095 Jan 11 13:28	11°♎27'24					
retrograde	4095 May 14 10:34	29°♎02'42					
opposition	4095 Jul 14 07:33	24°♎10'18 0°12'06					

direct	4100 Feb 03 09:10	10°II59'22			4105 Apr 26 01:09	30°RM	
	4100 Jun 07 05:59	0°☾		opposition	4105 May 17 03:37	27°ML26'13	1°18'59
evening set	4100 Jun 09 15:48	0°☾33'56		min. Earth dist.	4105 May 18 05:41	27°ML17'52	4.46262 AU
				direct	4105 Jul 18 21:34	22°ML24'21	
conjunction	4100 Jun 23 07:40	3°☾47'27	0°-28'-8		4105 Oct 03 14:54	0°☿	
minimum elong	4100 Jun 23 07:42	3°☾47'28	0°28'09	evening set	4105 Nov 21 20:59	9°☿51'45	
max. Earth dist.	4100 Jun 25 15:52	4°☾20'40	6.02124 AU	max. Earth dist.	4105 Dec 02 19:08	12°☿14'15	6.43596 AU
morning rise	4100 Jul 07 01:44	7°☾01'50					
retrograde	4100 Nov 13 17:27	26°☾49'50		conjunction	4105 Dec 04 16:45	12°☿39'09	0°45'53
min. Earth dist.	4101 Jan 10 19:46	21°☾57'16	4.08748 AU	minimum elong	4105 Dec 04 16:47	12°☿39'10	0°45'53
opposition	4101 Jan 12 07:36	21°☾45'04	0°-15'-53	morning rise	4105 Dec 17 10:13	15°☿25'34	
direct	4101 Mar 11 22:28	16°☾46'29			4106 Mar 08 07:04	0°☾	
asc. node	4101 May 11 20:29	22°☾19'32		retrograde	4106 Apr 17 09:01	2°☾23'54	
	4101 Jun 20 14:38	0°♈			4106 May 27 21:43	30°R☿	
evening set	4101 Jul 16 09:17	5°♈43'05		opposition	4106 Jun 17 06:52	27°☿31'51	0°49'52
				min. Earth dist.	4106 Jun 18 18:27	27°☿20'31	4.39308 AU
conjunction	4101 Jul 30 02:44	8°♈50'48	0°07'04	direct	4106 Aug 18 20:20	22°☿31'21	
minimum elong	4101 Jul 30 02:43	8°♈50'47	0°07'04		4106 Nov 02 02:58	0°☾	
behind sun begin	4101 Jul 29 19:01	8°♈46'25		evening set	4106 Dec 22 13:29	10°☾18'47	
behind sun end	4101 Jul 30 10:24	8°♈55'09		max. Earth dist.	4107 Jan 02 03:08	12°☾40'11	6.33451 AU
max. Earth dist.	4101 Aug 01 07:06	9°♈20'41	6.16283 AU				
morning rise	4101 Aug 12 20:20	11°♈58'18		conjunction	4107 Jan 04 06:44	13°☾09'05	0°19'38
	4101 Aug 26 09:28	15°♈		minimum elong	4107 Jan 04 06:45	13°☾09'05	0°19'39
	4101 Nov 27 23:34	0°♏		morning rise	4107 Jan 16 22:28	15°☾58'54	
retrograde	4101 Dec 17 00:31	0°♏35'16			4107 Mar 30 22:59	0°≈	
	4102 Jan 04 21:47	30°R♈		retrograde	4107 May 20 05:33	3°≈41'48	
opposition	4102 Feb 14 19:24	25°♈32'34	0°34'59		4107 Jul 10 18:09	30°R☾	
min. Earth dist.	4102 Feb 13 16:10	25°♈41'44	4.23944 AU	opposition	4107 Jul 20 01:50	28°☾49'19	0°05'11
direct	4102 Apr 15 15:13	20°♈31'34		min. Earth dist.	4107 Jul 21 14:35	28°☾37'34	4.26518 AU
	4102 Jul 09 04:23	0°♏		desc. node	4107 Aug 30 17:51	24°☾28'09	
evening set	4102 Aug 20 05:32	8°♏46'21		direct	4107 Sep 19 20:36	23°☾50'54	
					4107 Nov 25 02:43	0°≈	
conjunction	4102 Sep 02 19:00	11°♏45'52	0°38'15	evening set	4108 Jan 23 08:06	12°≈13'28	
minimum elong	4102 Sep 02 18:58	11°♏45'51	0°38'14	max. Earth dist.	4108 Feb 03 03:48	14°≈43'12	6.19020 AU
max. Earth dist.	4102 Sep 03 23:35	12°♏01'39	6.31267 AU		4108 Feb 04 08:50	15°≈	
morning rise	4102 Sep 16 07:19	14°♏44'31					
	4102 Dec 09 12:02	0°♏		conjunction	4108 Feb 05 01:16	15°≈09'30	0°-13'-29
retrograde	4103 Jan 17 06:40	2°♏18'17		minimum elong	4108 Feb 05 01:15	15°≈09'29	0°13'30
	4103 Feb 24 22:08	30°R♏		behind sun begin	4108 Feb 04 20:38	15°≈06'50	
opposition	4103 Mar 18 08:54	27°♏19'03	1°11'49	behind sun end	4108 Feb 05 05:51	15°≈12'09	
min. Earth dist.	4103 Mar 17 23:02	27°♏22'19	4.37523 AU	morning rise	4108 Feb 17 18:31	18°≈05'50	
direct	4103 May 18 13:04	22°♏16'42			4108 Apr 14 08:10	0°♏	
	4103 Aug 03 04:08	0°♏		retrograde	4108 Jun 23 10:09	6°♏54'28	
evening set	4103 Sep 22 01:33	9°♏58'59		opposition	4108 Aug 23 00:44	1°♏59'54	0°-44'-10
				min. Earth dist.	4108 Aug 24 01:18	1°♏51'57	4.11421 AU
conjunction	4103 Oct 05 08:39	12°♏51'19	0°56'47		4108 Sep 07 22:21	30°R≈	
minimum elong	4103 Oct 05 08:38	12°♏51'18	0°56'47	direct	4108 Oct 22 10:47	27°≈03'54	
max. Earth dist.	4103 Oct 05 09:47	12°♏51'56	6.42422 AU		4108 Dec 05 01:52	0°♏	
morning rise	4103 Oct 18 13:13	15°♏42'20		evening set	4109 Feb 24 23:00	16°♏08'51	
	4104 Jan 05 19:28	0°♏					
retrograde	4104 Feb 16 08:29	2°♏35'46		conjunction	4109 Mar 09 19:18	19°♏12'18	0°-43'-38
	4104 Mar 29 02:30	30°R♏		minimum elong	4109 Mar 09 19:16	19°♏12'17	0°43'39
opposition	4104 Apr 16 19:46	27°♏40'06	1°27'00	max. Earth dist.	4109 Mar 08 21:51	18°♏59'30	6.04570 AU
min. Earth dist.	4104 Apr 17 04:07	27°♏37'23	4.45630 AU	morning rise	4109 Mar 22 16:53	22°♏16'44	
direct	4104 Jun 18 00:10	22°♏37'35			4109 Apr 25 12:01	0°♏	
	4104 Sep 01 12:40	0°♏		retrograde	4109 Jul 30 20:48	12°♏14'40	
evening set	4104 Oct 22 08:31	10°♏03'16		opposition	4109 Sep 29 00:50	7°♏16'52	-1°-21'00
max. Earth dist.	4104 Nov 03 06:20	12°♏36'53	6.46865 AU	min. Earth dist.	4109 Sep 29 05:15	7°♏15'25	3.98953 AU
				direct	4109 Nov 27 01:31	2°♏22'47	
conjunction	4104 Nov 04 08:59	12°♏51'15	0°59'15	evening set	4110 Apr 01 17:06	22°♏02'18	
minimum elong	4104 Nov 04 08:59	12°♏51'15	0°59'15				
	4104 Nov 14 08:01	15°♏		conjunction	4110 Apr 14 19:26	25°♏12'43	0°-58'-56
morning rise	4104 Nov 17 06:53	15°♏38'00		minimum elong	4110 Apr 14 19:26	25°♏12'43	0°58'58
	4105 Feb 06 00:47	0°☿		max. Earth dist.	4110 Apr 15 06:05	25°♏19'10	5.95234 AU
retrograde	4105 Mar 17 10:21	2°☿19'20		morning rise	4110 Apr 28 00:33	28°♏24'42	

	4110 May 04 15:27	0°♄		max. Earth dist.	4115 Oct 09 13:39	17°♄09'41	6.43149 AU
	4110 Jul 17 08:03	15°♄		morning rise	4115 Oct 22 21:20	20°♄02'11	
retrograde	4110 Sep 07 06:26	19°♄05'44			4115 Dec 11 23:14	0°♄	
	4110 Oct 30 02:06	15°♄		retrograde	4116 Feb 20 13:53	6°♄53'11	
min. Earth dist.	4110 Nov 05 05:49	14°♄10'40	3.93905 AU	opposition	4116 Apr 21 00:53	1°♄57'54	1°27'11
opposition	4110 Nov 06 01:18	14°♄04'08	-1°-27'-29	min. Earth dist.	4116 Apr 21 12:17	1°♄54'12	4.45930 AU
direct	4111 Jan 03 01:41	9°♄10'09			4116 May 06 14:42	30°♄	
	4111 Mar 05 05:39	15°♄		direct	4116 Jun 22 08:10	26°♄55'24	
evening set	4111 May 09 01:19	28°♄59'49			4116 Aug 08 04:33	0°♄	
	4111 May 13 05:24	0°♄		evening set	4116 Oct 26 15:12	14°♄20'50	
					4116 Oct 29 16:18	15°♄	
conjunction	4111 May 22 11:41	2°♄14'10	0°-51'-18	max. Earth dist.	4116 Nov 07 10:39	16°♄53'16	6.46715 AU
minimum elong	4111 May 22 11:43	2°♄14'11	0°51'20				
max. Earth dist.	4111 May 24 05:36	2°♄39'29	5.94922 AU	conjunction	4116 Nov 08 15:05	17°♄08'37	0°58'14
morning rise	4111 Jun 05 01:03	5°♄29'59		minimum elong	4116 Nov 08 15:05	17°♄08'37	0°58'15
retrograde	4111 Oct 14 21:23	26°♄03'11		morning rise	4116 Nov 21 12:09	19°♄55'08	
min. Earth dist.	4111 Dec 12 01:49	21°♄10'12	3.98423 AU		4117 Jan 11 09:52	0°♄	
opposition	4111 Dec 13 11:16	20°♄58'49	0°-58'-41	retrograde	4117 Mar 21 15:26	6°♄37'22	
direct	4112 Feb 09 10:28	16°♄02'47		opposition	4117 May 21 10:23	1°♄44'25	1°16'01
	4112 May 21 11:56	0°♄		min. Earth dist.	4117 May 22 12:57	1°♄35'55	4.45679 AU
evening set	4112 Jun 14 16:35	5°♄32'53			4117 Jun 04 07:37	30°♄	
				direct	4117 Jul 23 03:18	26°♄42'42	
conjunction	4112 Jun 28 09:08	8°♄45'55	0°-23'-37		4117 Sep 09 18:24	0°♄	
minimum elong	4112 Jun 28 09:10	8°♄45'56	0°23'39	evening set	4117 Nov 26 03:15	14°♄11'43	
max. Earth dist.	4112 Jun 30 18:38	9°♄19'44	6.03787 AU	max. Earth dist.	4117 Dec 06 23:57	16°♄33'50	6.42608 AU
morning rise	4112 Jul 12 03:25	11°♄59'38					
	4112 Oct 17 06:28	0°♄		conjunction	4117 Dec 08 22:27	16°♄59'16	0°42'50
retrograde	4112 Nov 18 09:57	1°♄38'56		minimum elong	4117 Dec 08 22:28	16°♄59'17	0°42'50
	4112 Dec 20 05:40	30°♄		morning rise	4117 Dec 21 15:30	19°♄45'55	
opposition	4113 Jan 16 23:25	26°♄34'26	0°-8'-43		4118 Feb 10 13:40	0°♄	
min. Earth dist.	4113 Jan 15 12:20	26°♄46'21	4.10581 AU	retrograde	4118 Apr 21 20:42	6°♄48'25	
direct	4113 Mar 16 17:02	21°♄35'33		opposition	4118 Jun 21 17:49	1°♄56'22	0°44'19
asc. node	4113 Mar 23 15:53	21°♄40'25		min. Earth dist.	4118 Jun 23 06:52	1°♄44'33	4.37937 AU
	4113 Jun 01 22:21	0°♄			4118 Jul 07 08:36	30°♄	
evening set	4113 Jul 21 05:23	10°♄27'09		direct	4118 Aug 23 06:44	26°♄56'03	
					4118 Oct 08 14:45	0°♄	
conjunction	4113 Aug 03 22:26	13°♄33'55	0°11'44	evening set	4118 Dec 26 21:39	14°♄46'58	
minimum elong	4113 Aug 03 22:25	13°♄33'55	0°11'44	max. Earth dist.	4119 Jan 06 10:11	17°♄08'20	6.31779 AU
behind sun begin	4113 Aug 03 16:40	13°♄30'39					
behind sun end	4113 Aug 04 04:11	13°♄37'10		conjunction	4119 Jan 08 14:41	17°♄37'50	0°15'14
max. Earth dist.	4113 Aug 05 22:46	14°♄01'23	6.18126 AU	minimum elong	4119 Jan 08 14:42	17°♄37'50	0°15'15
	4113 Aug 10 06:02	15°♄		behind sun begin	4119 Jan 08 11:53	17°♄36'16	
morning rise	4113 Aug 17 15:48	16°♄40'27		behind sun end	4119 Jan 08 17:31	17°♄39'25	
	4113 Oct 23 04:05	0°♄		morning rise	4119 Jan 21 06:31	20°♄28'20	
retrograde	4113 Dec 21 09:29	5°♄09'12			4119 Mar 07 16:54	0°♄	
min. Earth dist.	4114 Feb 18 04:13	0°♄15'17	4.25649 AU	retrograde	4119 May 24 22:09	8°♄18'36	
opposition	4114 Feb 19 05:02	0°♄06'57	0°41'02	desc. node	4119 Jul 10 18:37	5°♄10'51	
	4114 Feb 20 01:40	30°♄		opposition	4119 Jul 24 18:49	3°♄25'49	0°-1'-44
direct	4114 Apr 20 04:51	25°♄05'42		min. Earth dist.	4119 Jul 26 05:57	3°♄14'34	4.24625 AU
	4114 Jun 17 15:26	0°♄			4119 Aug 23 09:58	30°♄	
evening set	4114 Aug 24 20:01	13°♄16'40		direct	4119 Sep 24 09:06	28°♄27'39	
					4119 Oct 26 05:22	0°♄	
conjunction	4114 Sep 07 08:55	16°♄15'18	0°41'36		4120 Jan 19 11:10	15°♄	
minimum elong	4114 Sep 07 08:53	16°♄15'17	0°41'36	evening set	4120 Jan 27 20:46	16°♄55'16	
max. Earth dist.	4114 Sep 08 11:08	16°♄29'45	6.32729 AU	max. Earth dist.	4120 Feb 07 20:15	19°♄27'48	6.17057 AU
morning rise	4114 Sep 20 20:08	19°♄12'56					
	4114 Nov 13 11:52	0°♄		conjunction	4120 Feb 09 14:15	19°♄52'12	0°-18'-6
retrograde	4115 Jan 21 11:40	6°♄40'58		minimum elong	4120 Feb 09 14:14	19°♄52'11	0°18'07
opposition	4115 Mar 22 14:39	1°♄42'18	1°15'12	morning rise	4120 Feb 22 07:44	22°♄49'29	
min. Earth dist.	4115 Mar 22 06:41	1°♄44'56	4.38657 AU		4120 Mar 25 12:02	0°♄	
	4115 Apr 04 19:18	30°♄		retrograde	4120 Jun 28 11:54	11°♄47'27	
direct	4115 May 22 21:37	26°♄39'56		opposition	4120 Aug 28 00:45	6°♄52'29	0°-50'-27
	4115 Jul 10 06:42	0°♄		min. Earth dist.	4120 Aug 29 00:03	6°♄44'56	4.09528 AU
evening set	4115 Sep 26 11:29	14°♄20'08		direct	4120 Oct 27 07:15	1°♄56'46	
				evening set	4121 Mar 01 18:27	21°♄06'57	
conjunction	4115 Oct 09 17:32	17°♄11'47	0°58'03				
minimum elong	4115 Oct 09 17:32	17°♄11'47	0°58'02	conjunction	4121 Mar 14 15:17	24°♄11'23	0°-46'-53

minimum elong	4121 Mar 14 15:15	24° ✕ 11'22	0°46'54	minimum elong	4126 Sep 12 00:39	20° η 48'56	0°44'50
max. Earth dist.	4121 Mar 13 20:22	24° ✕ 00'04	6.02909 AU	max. Earth dist.	4126 Sep 12 22:53	21° η 01'07	6.34645 AU
morning rise	4121 Mar 27 13:51	27° ✕ 16'57		morning rise	4126 Sep 25 11:01	23° η 45'23	
	4121 Apr 08 02:18	0° γ			4126 Oct 25 02:16	0° ♎	
retrograde	4121 Aug 05 02:08	17° γ 22'52		retrograde	4127 Jan 25 17:09	11° ♎ 06'04	
opposition	4121 Oct 04 05:41	12° γ 24'32	-1°-23'-59	opposition	4127 Mar 26 21:59	6° ♎ 07'52	1°18'15
min. Earth dist.	4121 Oct 04 06:07	12° γ 24'23	3.97711 AU	min. Earth dist.	4127 Mar 26 16:16	6° ♎ 09'45	4.40339 AU
direct	4121 Dec 02 01:29	7° γ 30'32		direct	4127 May 27 09:07	1° ♎ 05'26	
evening set	4122 Apr 06 19:04	27° γ 13'24		evening set	4127 Sep 30 21:26	18° ♎ 41'26	
	4122 Apr 18 05:57	0° ♏					
conjunction	4122 Apr 19 22:29	0° ♏ 24'38	0°-59'-18	conjunction	4127 Oct 14 02:37	21° ♎ 32'11	0°59'02
minimum elong	4122 Apr 19 22:29	0° ♏ 24'38	0°59'18	minimum elong	4127 Oct 14 02:37	21° ♎ 32'11	0°59'02
max. Earth dist.	4122 Apr 20 13:47	0° ♏ 33'56	5.94528 AU	max. Earth dist.	4127 Oct 13 20:49	21° ♎ 29'03	6.44482 AU
morning rise	4122 May 03 04:42	3° ♏ 37'27		morning rise	4127 Oct 27 05:08	24° ♎ 21'37	
	4122 Jun 22 17:29	15° ♏			4127 Nov 23 07:23	0° ♏	
retrograde	4122 Sep 12 13:20	24° ♏ 21'08		retrograde	4128 Feb 24 16:07	11° ♏ 08'18	
min. Earth dist.	4122 Nov 10 09:44	19° ♏ 26'11	3.93814 AU	opposition	4128 Apr 25 05:27	6° ♏ 13'25	1°26'55
opposition	4122 Nov 11 07:02	19° ♏ 19'00	-1°-25'-25	min. Earth dist.	4128 Apr 25 18:26	6° ♏ 09'13	4.46838 AU
	4122 Dec 20 19:03	15° ♏		direct	4128 Jun 26 14:52	1° ♏ 11'03	
direct	4123 Jan 08 06:37	14° ♏ 24'48			4128 Oct 13 21:27	15° ♏	
	4123 Jan 26 17:20	15° ♏		evening set	4128 Oct 30 20:33	18° ♏ 34'13	
	4123 Apr 26 08:33	0° ♐		max. Earth dist.	4128 Nov 11 10:48	21° ♏ 03'54	6.47115 AU
evening set	4123 May 14 06:38	4° ♐ 14'07					
conjunction	4123 May 27 18:13	7° ♐ 28'44	0°-48'-25	conjunction	4128 Nov 12 19:24	21° ♏ 21'30	0°56'58
minimum elong	4123 May 27 18:15	7° ♐ 28'46	0°48'26	minimum elong	4128 Nov 12 19:25	21° ♏ 21'30	0°56'58
max. Earth dist.	4123 May 29 16:21	7° ♐ 56'31	5.95457 AU	morning rise	4128 Nov 25 15:48	24° ♏ 07'35	
morning rise	4123 Jun 10 08:32	10° ♐ 44'45			4128 Dec 23 21:54	0° ♐	
	4123 Sep 22 11:39	0° ♑		retrograde	4129 Mar 25 20:20	10° ♐ 49'16	
retrograde	4123 Oct 20 00:24	1° ♑ 13'33		opposition	4129 May 25 15:10	5° ♐ 56'32	1°12'45
	4123 Nov 16 06:51	30° ♑		min. Earth dist.	4129 May 26 20:38	5° ♐ 47'06	4.45535 AU
min. Earth dist.	4123 Dec 17 02:19	26° ♑ 20'49	3.99524 AU	direct	4129 Jul 27 10:02	0° ♐ 54'54	
opposition	4123 Dec 18 12:55	26° ♑ 09'03	0°-52'-28	evening set	4129 Nov 30 06:21	18° ♐ 24'19	
direct	4124 Feb 14 13:03	21° ♑ 12'41		max. Earth dist.	4129 Dec 11 00:51	20° ♐ 45'29	6.41912 AU
	4124 May 02 07:10	0° ♑					
evening set	4124 Jun 19 21:04	10° ♑ 39'05		conjunction	4129 Dec 13 01:10	21° ♐ 11'58	0°39'40
conjunction	4124 Jul 03 13:55	13° ♑ 51'35	0°-18'-48	minimum elong	4129 Dec 13 01:12	21° ♐ 11'59	0°39'40
minimum elong	4124 Jul 03 13:56	13° ♑ 51'36	0°18'49	morning rise	4129 Dec 25 17:46	23° ♐ 58'44	
max. Earth dist.	4124 Jul 05 22:21	14° ♑ 24'39	6.05338 AU		4130 Jan 23 05:32	0° ♑	
morning rise	4124 Jul 17 08:38	17° ♑ 04'41		retrograde	4130 Apr 26 03:04	11° ♑ 04'57	
	4124 Sep 16 18:00	0° ♒		opposition	4130 Jun 26 01:43	6° ♑ 12'51	0°38'43
retrograde	4124 Nov 23 03:25	6° ♒ 35'23		min. Earth dist.	4130 Jun 27 14:51	6° ♑ 01'01	4.36713 AU
min. Earth dist.	4125 Jan 20 07:31	1° ♒ 42'51	4.12427 AU	direct	4130 Aug 27 11:44	1° ♑ 12'46	
opposition	4125 Jan 21 18:12	1° ♒ 31'03	0°-1'-15	evening set	4130 Dec 31 02:24	19° ♑ 07'03	
asc. node	4125 Jan 31 07:31	0° ♒ 14'08		max. Earth dist.	4131 Jan 10 14:58	21° ♑ 28'59	6.30104 AU
	4125 Feb 02 03:03	30° ♒					
direct	4125 Mar 21 15:13	26° ♒ 31'49		conjunction	4131 Jan 12 19:16	21° ♑ 58'30	0°10'54
	4125 May 08 02:33	0° ♒		minimum elong	4131 Jan 12 19:17	21° ♑ 58'30	0°10'55
	4125 Jul 24 20:22	15° ♒		behind sun begin	4131 Jan 12 13:12	21° ♑ 55'06	
evening set	4125 Jul 26 04:54	15° ♒ 18'17		behind sun end	4131 Jan 13 01:22	22° ♑ 01'55	
conjunction	4125 Aug 08 21:46	18° ♒ 24'02	0°16'31	morning rise	4131 Jan 25 11:05	24° ♑ 49'41	
minimum elong	4125 Aug 08 21:46	18° ♒ 24'02	0°16'30		4131 Feb 18 01:04	0° ♓	
max. Earth dist.	4125 Aug 10 21:02	18° ♒ 50'47	6.20152 AU	desc. node	4131 May 22 17:29	12° ♓ 43'29	
morning rise	4125 Aug 22 14:22	21° ♒ 29'23		retrograde	4131 May 29 13:57	12° ♓ 47'53	
	4125 Oct 01 12:32	0° ♓		opposition	4131 Jul 29 08:56	7° ♓ 54'56	0°-8'-27
retrograde	4125 Dec 25 21:31	9° ♓ 48'55		min. Earth dist.	4131 Jul 30 20:50	7° ♓ 43'26	4.22577 AU
opposition	4126 Feb 23 17:16	4° ♓ 47'10	0°47'00	direct	4131 Sep 28 20:37	2° ♓ 57'02	
min. Earth dist.	4126 Feb 22 18:13	4° ♓ 54'53	4.27693 AU		4132 Jan 03 04:06	15° ♓	
	4126 Apr 12 18:37	30° ♓		evening set	4132 Feb 01 06:55	21° ♓ 30'43	
direct	4126 Apr 24 21:36	29° ♓ 45'47		max. Earth dist.	4132 Feb 12 06:53	24° ♓ 04'20	6.14797 AU
	4126 May 07 02:41	0° ♓					
evening set	4126 Aug 29 12:48	17° ♓ 51'28		conjunction	4132 Feb 14 00:39	24° ♓ 28'43	0°-22'-29
conjunction	4126 Sep 12 00:41	20° ♓ 48'57	0°44'49	minimum elong	4132 Feb 14 00:38	24° ♓ 28'42	0°22'29
				morning rise	4132 Feb 26 18:46	27° ♓ 27'11	
					4132 Mar 08 20:08	0° ♔	
				retrograde	4132 Jul 03 10:04	16° ♔ 35'55	
				opposition	4132 Sep 01 22:23	11° ♔ 40'36	0°-56'-17
				min. Earth dist.	4132 Sep 02 18:51	11° ♔ 33'57	4.07246 AU

direct	4132 Oct 31 22:48	6° ✕ 45'08		minimum elong	4138 Sep 16 16:47	25° ⌢ 24'03	0°47'47
evening set	4133 Mar 06 12:44	26° ✕ 02'34		max. Earth dist.	4138 Sep 17 11:30	25° ⌢ 34'17	6.36574 AU
conjunction	4133 Mar 19 10:24	29° ✕ 08'18	0°-49'-45	morning rise	4138 Sep 30 01:55	28° ⌢ 19'13	
minimum elong	4133 Mar 19 10:23	29° ✕ 08'17	0°49'46	retrograde	4138 Oct 07 20:52	0° ♄	
max. Earth dist.	4133 Mar 18 19:36	28° ✕ 59'24	6.00812 AU	opposition	4139 Jan 29 23:50	15° ♄ 32'42	
morning rise	4133 Mar 23 00:22	0° ♃		min. Earth dist.	4139 Mar 31 05:54	10° ♄ 34'58	1°20'52
retrograde	4133 Apr 01 09:54	2° ♃ 15'15		direct	4139 Mar 31 03:07	10° ♄ 35'53	4.41883 AU
opposition	4133 Aug 10 10:14	22° ♃ 31'16		evening set	4139 May 31 21:47	5° ♄ 32'28	
min. Earth dist.	4133 Oct 09 10:20	17° ♃ 32'25	-1°-26'-20		4139 Oct 05 08:05	23° ♄ 04'46	
direct	4133 Oct 09 08:37	17° ♃ 32'59	3.96012 AU	conjunction	4139 Oct 18 12:12	25° ♄ 54'43	0°59'43
evening set	4133 Dec 07 02:22	12° ♃ 38'30		minimum elong	4139 Oct 18 12:11	25° ♄ 54'43	0°59'43
	4134 Apr 01 17:13	0° ♂		max. Earth dist.	4139 Oct 18 01:11	25° ♄ 48'47	6.45506 AU
	4134 Apr 11 21:35	2° ♂ 26'41		morning rise	4139 Oct 31 13:50	28° ♄ 43'22	
conjunction	4134 Apr 25 02:20	5° ♂ 39'04	0°-59'-10		4139 Nov 06 13:39	0° ♄	
minimum elong	4134 Apr 25 02:20	5° ♂ 39'04	0°59'11	retrograde	4140 Feb 11 23:01	15° ♄	
max. Earth dist.	4134 Apr 25 23:02	5° ♂ 51'40	5.93403 AU		4140 Feb 28 21:21	15° ♄ 26'58	
morning rise	4134 May 08 09:51	8° ♂ 53'01		opposition	4140 Mar 16 18:05	15° ♄	
retrograde	4134 Jun 03 09:11	15° ♂		min. Earth dist.	4140 Apr 29 11:43	10° ♄ 32'25	1°26'13
opposition	4134 Sep 17 22:19	29° ♂ 40'44		direct	4140 Apr 30 03:35	10° ♄ 27'17	4.47295 AU
min. Earth dist.	4134 Nov 16 13:52	24° ♂ 38'11	-1°-22'-40		4140 Jun 30 23:53	5° ♄ 30'02	
direct	4134 Nov 15 13:38	24° ♂ 46'23	3.93420 AU	evening set	4140 Sep 26 10:11	15° ♄	
evening set	4135 Jan 13 10:37	19° ♂ 43'50		max. Earth dist.	4140 Nov 04 03:17	22° ♄ 52'22	
	4135 Apr 07 14:25	0° ♄			4140 Nov 15 15:16	25° ♄ 20'54	6.46969 AU
	4135 May 19 14:22	9° ♄ 33'58		conjunction	4140 Nov 17 01:35	25° ♄ 39'26	0°55'22
conjunction	4135 Jun 02 02:54	12° ♄ 48'55	0°-45'-5	minimum elong	4140 Nov 17 01:36	25° ♄ 39'27	0°55'21
minimum elong	4135 Jun 02 02:56	12° ♄ 48'57	0°45'06	morning rise	4140 Nov 29 21:08	28° ♄ 25'18	
max. Earth dist.	4135 Jun 04 03:13	13° ♄ 17'58	5.95815 AU	retrograde	4140 Dec 07 06:34	0° ♂	
morning rise	4135 Jun 15 18:25	16° ♄ 05'15		opposition	4141 Mar 30 02:24	15° ♂ 08'21	
retrograde	4135 Aug 19 13:49	0° ♄		min. Earth dist.	4141 May 29 23:09	10° ♂ 15'47	1°09'00
min. Earth dist.	4135 Oct 25 03:13	6° ♄ 29'53		direct	4141 May 31 05:51	10° ♂ 05'58	4.44794 AU
opposition	4135 Dec 22 03:42	1° ♄ 37'31	4.00579 AU	evening set	4141 Jul 31 17:28	5° ♂ 14'21	
	4135 Dec 23 16:05	1° ♄ 25'07	0°-45'-46	max. Earth dist.	4141 Dec 04 13:09	22° ♂ 45'57	
direct	4136 Jan 03 05:49	30° ♄			4141 Dec 15 04:43	25° ♂ 06'00	6.40622 AU
	4136 Feb 19 17:32	26° ♄ 28'17		conjunction	4141 Dec 17 07:25	25° ♂ 33'54	0°36'10
evening set	4136 Apr 06 19:05	0° ♄		minimum elong	4141 Dec 17 07:26	25° ♂ 33'55	0°36'11
	4136 Jun 25 03:38	15° ♄ 50'57		morning rise	4141 Dec 29 23:50	28° ♂ 21'05	
conjunction	4136 Jul 08 21:02	19° ♄ 02'53	0°-13'-46	retrograde	4142 Jan 06 13:41	0° ♂	
minimum elong	4136 Jul 08 21:03	19° ♄ 02'53	0°13'47	opposition	4142 Apr 30 17:17	15° ♂ 33'02	
behind sun begin	4136 Jul 08 16:49	19° ♄ 00'25		min. Earth dist.	4142 Jun 30 14:53	10° ♂ 40'56	0°32'37
behind sun end	4136 Jul 09 01:18	19° ♄ 05'21		direct	4142 Jul 02 05:34	10° ♂ 28'35	4.34931 AU
max. Earth dist.	4136 Jul 11 06:59	19° ♄ 36'42	6.06998 AU	evening set	4142 Aug 31 23:43	5° ♂ 41'03	
morning rise	4136 Jul 22 15:45	22° ♄ 15'13		max. Earth dist.	4143 Jan 04 12:31	23° ♂ 40'24	
retrograde	4136 Aug 26 13:03	0° ♄			4143 Jan 15 01:13	26° ♂ 03'05	6.27974 AU
asc. node	4136 Nov 27 23:59	11° ♄ 36'26		conjunction	4143 Jan 17 05:29	26° ♂ 32'43	0°06'17
min. Earth dist.	4136 Dec 10 00:51	11° ♄ 21'50		minimum elong	4143 Jan 17 05:29	26° ♂ 32'42	0°06'16
opposition	4137 Jan 25 04:55	6° ♄ 43'39	4.14466 AU	behind sun begin	4143 Jan 16 21:56	26° ♂ 28'27	
direct	4137 Jan 26 14:34	6° ♄ 32'14	0°06'16	behind sun end	4143 Jan 17 13:01	26° ♂ 36'58	
evening set	4137 Mar 26 15:53	1° ♄ 32'35		morning rise	4143 Jan 29 21:26	29° ♂ 24'49	
	4137 Jul 07 10:46	15° ♄			4143 Feb 01 11:56	0° ♂	
	4137 Jul 31 05:32	20° ♄ 12'49		desc. node	4143 Apr 01 02:01	11° ♂ 50'00	
conjunction	4137 Aug 13 21:52	23° ♄ 17'22	0°21'13	retrograde	4143 Apr 23 06:59	15° ♂	
minimum elong	4137 Aug 13 21:50	23° ♄ 17'21	0°21'12		4143 Jun 03 10:18	17° ♂ 32'31	
max. Earth dist.	4137 Aug 15 18:58	23° ♄ 42'45	6.22361 AU	opposition	4143 Jul 15 03:14	15° ♄	
morning rise	4137 Aug 27 13:51	26° ♄ 21'25		min. Earth dist.	4143 Aug 03 05:37	12° ♂ 39'19	0°-15'-33
retrograde	4137 Sep 13 03:33	0° ♄		direct	4143 Aug 04 15:25	12° ♂ 28'28	4.20246 AU
min. Earth dist.	4137 Dec 30 07:36	14° ♄ 31'00			4143 Oct 03 11:47	7° ♂ 41'47	
opposition	4138 Feb 27 08:28	9° ♄ 36'51	4.29854 AU	evening set	4143 Dec 14 15:51	15° ♂	
direct	4138 Feb 28 06:14	9° ♄ 29'34	0°52'42	max. Earth dist.	4144 Feb 05 23:39	26° ♂ 22'18	
evening set	4138 Apr 29 14:57	4° ♄ 27'54			4144 Feb 17 03:08	28° ♂ 58'46	6.12466 AU
	4138 Sep 03 05:49	22° ♄ 27'48		conjunction	4144 Feb 18 17:45	29° ♂ 21'26	0°-27'00
conjunction	4138 Sep 16 16:48	25° ♄ 24'04	0°47'48	minimum elong	4144 Feb 18 17:43	29° ♂ 21'25	0°27'00
					4144 Feb 21 11:27	0° ♂	

morning rise	4144 Mar 02 12:27	2° κ 21'09		opposition	4150 Mar 04 15:45	14° η 03'04	0°57'52
retrograde	4144 Jul 08 18:00	21° κ 41'02		min. Earth dist.	4150 Mar 03 21:28	14° η 09'10	4.32028 AU
opposition	4144 Sep 07 03:30	16° κ 45'18	-1°-2'-5	direct	4150 May 04 06:24	9° η 01'13	
min. Earth dist.	4144 Sep 07 21:51	16° κ 39'19	4.05114 AU	evening set	4150 Sep 07 19:09	26° η 55'48	
direct	4144 Nov 05 23:48	11° κ 50'10					
	4145 Mar 06 09:45	0° γ		conjunction	4150 Sep 21 05:14	29° η 50'59	0°50'23
evening set	4145 Mar 11 13:39	1° γ 13'55		minimum elong	4150 Sep 21 05:13	29° η 50'58	0°50'23
					4150 Sep 21 21:47	0° ε	
conjunction	4145 Mar 24 12:15	4° γ 20'49	0°-52'-24	max. Earth dist.	4150 Sep 21 19:39	29° η 58'50	6.38314 AU
minimum elong	4145 Mar 24 12:14	4° γ 20'49	0°52'25	morning rise	4150 Oct 04 13:17	2° ε 45'00	
max. Earth dist.	4145 Mar 24 02:30	4° γ 14'56	5.99101 AU	retrograde	4151 Feb 03 02:53	19° ε 52'31	
morning rise	4145 Apr 06 12:47	7° γ 29'01		opposition	4151 Apr 04 11:06	14° ε 55'17	1°22'59
retrograde	4145 Aug 15 21:44	27° γ 52'59		min. Earth dist.	4151 Apr 04 10:44	14° ε 55'24	4.43102 AU
opposition	4145 Oct 14 20:27	22° γ 53'40	-1°-28'-4	direct	4151 Jun 05 05:54	9° ε 52'44	
min. Earth dist.	4145 Oct 14 14:45	22° γ 55'34	3.94961 AU	evening set	4151 Oct 09 15:56	27° ε 22'39	
direct	4145 Dec 12 07:32	17° γ 59'57			4151 Oct 21 20:53	0° μ	
	4146 Mar 14 13:51	0° δ		conjunction	4151 Oct 22 19:11	0° μ 12'01	1°00'04
evening set	4146 Apr 17 05:22	7° δ 50'44		minimum elong	4151 Oct 22 19:11	0° μ 12'01	1°00'04
conjunction	4146 Apr 30 11:06	11° δ 03'46	0°-58'-34	max. Earth dist.	4151 Oct 22 04:35	0° μ 04'08	6.46115 AU
minimum elong	4146 Apr 30 11:07	11° δ 03'46	0°58'36	morning rise	4151 Nov 04 19:48	3° μ 00'04	
max. Earth dist.	4146 May 01 11:52	11° δ 18'50	5.93116 AU		4152 Jan 06 18:07	15° μ	
morning rise	4146 May 13 19:57	14° δ 18'26		retrograde	4152 Mar 04 01:13	19° μ 42'14	
	4146 May 16 16:57	15° δ			4152 May 02 03:33	15° μ	
	4146 Jul 27 00:18	0° ι		opposition	4152 May 03 16:31	14° μ 48'06	1°25'07
retrograde	4146 Sep 23 07:19	5° ι 06'08		min. Earth dist.	4152 May 04 11:20	14° μ 42'03	4.47274 AU
opposition	4146 Nov 21 22:53	0° ι 03'08	-1°-19'-8	direct	4152 Jul 05 06:58	9° μ 45'50	
min. Earth dist.	4146 Nov 20 19:23	0° ι 12'27	3.93955 AU		4152 Sep 05 19:18	15° μ	
	4146 Nov 22 08:09	30° κ 8		evening set	4152 Nov 08 09:09	27° μ 08'58	
direct	4147 Jan 18 19:18	25° κ 08'32		max. Earth dist.	4152 Nov 19 15:52	29° μ 35'01	6.46307 AU
	4147 Mar 15 03:59	0° ι		conjunction	4152 Nov 21 06:42	29° μ 56'02	0°53'30
evening set	4147 May 24 23:21	14° ι 55'50		minimum elong	4152 Nov 21 06:43	29° μ 56'03	0°53'30
conjunction	4147 Jun 07 12:59	18° ι 10'39	0°-41'-24		4152 Nov 21 14:01	0° κ	
minimum elong	4147 Jun 07 13:01	18° ι 10'40	0°41'25	morning rise	4152 Dec 04 01:51	2° κ 42'00	
max. Earth dist.	4147 Jun 09 17:30	18° ι 42'07	5.97125 AU	retrograde	4153 Apr 03 10:43	19° κ 28'09	
morning rise	4147 Jun 21 05:06	21° ι 26'39		opposition	4153 Jun 03 07:15	14° κ 35'44	1°04'56
	4147 Jul 28 20:49	0° ε		min. Earth dist.	4153 Jun 04 15:59	14° κ 25'17	4.43545 AU
retrograde	4147 Oct 30 06:01	11° ε 43'15		direct	4153 Aug 05 01:18	9° κ 34'26	
min. Earth dist.	4147 Dec 27 06:05	6° ε 50'46	4.02491 AU	evening set	4153 Dec 08 20:11	27° κ 09'54	
opposition	4147 Dec 28 18:24	6° ε 38'22	0°-38'-47	max. Earth dist.	4153 Dec 19 11:31	29° κ 30'22	6.38883 AU
direct	4148 Feb 24 22:59	1° ε 41'10		conjunction	4153 Dec 21 14:21	29° κ 58'26	0°32'28
evening set	4148 Jun 30 08:22	20° ε 57'13		minimum elong	4153 Dec 21 14:22	29° κ 58'27	0°32'29
conjunction	4148 Jul 14 01:50	24° ε 08'07	0°-8'-45		4153 Dec 21 17:11	0° ζ	
minimum elong	4148 Jul 14 01:50	24° ε 08'07	0°08'45	morning rise	4154 Jan 03 06:28	2° ζ 46'14	
behind sun begin	4148 Jul 13 18:38	24° ε 03'58		retrograde	4154 May 05 07:18	20° ζ 05'27	
behind sun end	4148 Jul 14 09:03	24° ε 12'17		opposition	4154 Jul 05 05:30	15° ζ 13'18	0°26'18
max. Earth dist.	4148 Jul 16 11:27	24° ε 41'32	6.09311 AU	min. Earth dist.	4154 Jul 06 19:36	15° ζ 01'09	4.32816 AU
morning rise	4148 Jul 27 20:30	27° ε 19'19		direct	4154 Sep 05 10:41	10° ζ 13'46	
	4148 Aug 08 14:47	0° η		evening set	4155 Jan 09 00:21	28° ζ 19'09	
asc. node	4148 Oct 19 18:00	13° η 30'28			4155 Jan 16 10:11	0° ≈	
	4148 Nov 02 03:14	15° η		max. Earth dist.	4155 Jan 19 13:45	0° ≈ 43'03	6.25652 AU
retrograde	4148 Dec 02 14:32	16° η 29'10		conjunction	4155 Jan 21 17:12	1° ≈ 12'22	0°01'33
	4149 Jan 01 20:53	15° κ 0		minimum elong	4155 Jan 21 17:12	1° ≈ 12'23	0°01'33
min. Earth dist.	4149 Jan 29 22:16	11° η 36'31	4.16942 AU	behind sun begin	4155 Jan 21 09:13	1° ≈ 07'51	
opposition	4149 Jan 31 07:32	11° η 25'15	0°13'30	behind sun end	4155 Jan 22 01:11	1° ≈ 16'54	
direct	4149 Mar 31 12:33	6° η 25'16		morning rise	4155 Feb 03 09:30	4° ≈ 05'33	
	4149 Jun 18 11:55	15° η		desc. node	4155 Feb 08 10:05	5° ≈ 13'40	
evening set	4149 Aug 05 02:41	24° η 58'25			4155 Mar 27 11:01	15° ≈	
conjunction	4149 Aug 18 18:22	28° η 01'38	0°25'37	retrograde	4155 Jun 08 11:31	22° ≈ 23'30	
minimum elong	4149 Aug 18 18:20	28° η 01'37	0°25'38	opposition	4155 Aug 08 04:45	17° ≈ 30'01	0°-22'-40
max. Earth dist.	4149 Aug 20 11:17	28° η 24'33	6.24790 AU	min. Earth dist.	4155 Aug 09 13:13	17° ≈ 19'34	4.17879 AU
	4149 Aug 27 13:59	0° η			4155 Aug 28 13:48	15° κ ≈	
morning rise	4149 Sep 01 09:29	1° η 04'15		direct	4155 Oct 08 07:08	12° ≈ 32'48	
retrograde	4150 Jan 03 16:52	19° η 03'58			4155 Nov 17 08:56	15° ≈	

	4156 Feb 05 01:00	0°♂		conjunction	4161 Aug 23 13:03	2°♎41'04	0°29'50
evening set	4156 Feb 10 18:30	1°♂20'02		minimum elong	4161 Aug 23 13:02	2°♎41'03	0°29'50
max. Earth dist.	4156 Feb 22 02:37	3°♂59'56	6.10277 AU	max. Earth dist.	4161 Aug 25 03:31	3°♎02'30	6.26879 AU
				morning rise	4161 Sep 06 03:16	5°♎42'25	
conjunction	4156 Feb 23 13:10	4°♂20'18	0°-31'-21	retrograde	4162 Jan 07 23:32	23°♎33'40	
minimum elong	4156 Feb 23 13:08	4°♂20'17	0°31'22	min. Earth dist.	4162 Mar 08 07:45	18°♎38'49	4.33820 AU
morning rise	4156 Mar 07 08:27	7°♂21'14		opposition	4162 Mar 09 00:20	18°♎33'18	1°02'40
retrograde	4156 Jul 14 01:44	26°♂51'11		direct	4162 May 08 18:16	13°♎31'19	
opposition	4156 Sep 12 09:57	21°♂55'00	-1°-7'-27		4162 Sep 05 23:43	0°♎	
min. Earth dist.	4156 Sep 13 00:32	21°♂50'14	4.03331 AU	evening set	4162 Sep 12 08:03	1°♎21'51	
direct	4156 Nov 11 00:10	17°♂00'10					
	4157 Feb 16 20:58	0°♎		conjunction	4162 Sep 25 17:07	4°♎16'05	0°52'41
evening set	4157 Mar 16 16:01	6°♎28'40		minimum elong	4162 Sep 25 17:05	4°♎16'04	0°52'41
				max. Earth dist.	4162 Sep 26 02:11	4°♎21'01	6.39679 AU
conjunction	4157 Mar 29 15:19	9°♎36'29	0°-54'-39	morning rise	4162 Oct 09 00:11	7°♎09'09	
minimum elong	4157 Mar 29 15:18	9°♎36'28	0°54'39	retrograde	4163 Feb 07 08:44	24°♎11'57	
max. Earth dist.	4157 Mar 29 09:51	9°♎33'11	5.97873 AU	opposition	4163 Apr 08 16:47	19°♎15'15	1°24'39
morning rise	4157 Apr 11 16:59	12°♎45'42		min. Earth dist.	4163 Apr 08 20:11	19°♎14'09	4.43966 AU
	4157 Jul 06 06:58	0°♏		direct	4163 Jun 09 15:50	14°♎12'42	
retrograde	4157 Aug 21 07:32	3°♏15'10			4163 Oct 06 01:44	0°♎	
	4157 Oct 06 20:59	30°♏♎		evening set	4163 Oct 14 00:22	1°♎41'14	
opposition	4157 Oct 20 06:10	28°♎15'13	-1°-29'-2	max. Earth dist.	4163 Oct 26 08:16	4°♎20'10	6.46407 AU
min. Earth dist.	4157 Oct 19 20:33	28°♎18'25	3.94429 AU				
direct	4157 Dec 17 14:31	23°♎21'26		conjunction	4163 Oct 27 02:50	4°♎30'10	1°00'05
	4158 Feb 21 09:19	0°♏		minimum elong	4163 Oct 27 02:50	4°♎30'10	1°00'05
evening set	4158 Apr 22 12:11	13°♏12'39		morning rise	4163 Nov 09 02:36	7°♎17'47	
	4158 Apr 29 21:26	15°♏			4163 Dec 16 21:28	15°♎	
				retrograde	4164 Mar 08 06:07	23°♎59'29	
conjunction	4158 May 05 19:11	16°♏26'07	0°-57'-29	opposition	4164 May 07 22:38	19°♎05'41	1°23'32
minimum elong	4158 May 05 19:12	16°♏26'08	0°57'30	min. Earth dist.	4164 May 08 19:10	18°♎59'04	4.47006 AU
max. Earth dist.	4158 May 07 02:08	16°♏44'56	5.93324 AU		4164 Jun 14 09:23	15°♎	
morning rise	4158 May 19 04:59	19°♏41'09		direct	4164 Jul 09 13:27	14°♎03'32	
	4158 Jul 03 13:00	0°♐			4164 Aug 03 22:55	15°♎	
retrograde	4158 Sep 28 15:42	10°♐26'31			4164 Nov 05 19:13	0°♐	
min. Earth dist.	4158 Nov 26 00:56	5°♐32'50	3.94876 AU	evening set	4164 Nov 12 15:59	1°♐28'04	
opposition	4158 Nov 27 05:39	5°♐23'05	-1°-14'-58	max. Earth dist.	4164 Nov 23 20:57	3°♐53'29	6.45505 AU
direct	4159 Jan 24 02:46	0°♐28'11					
evening set	4159 May 30 06:19	20°♐11'26		conjunction	4164 Nov 25 13:01	4°♐15'14	0°51'18
				minimum elong	4164 Nov 25 13:03	4°♐15'15	0°51'18
conjunction	4159 Jun 12 20:38	23°♐25'53	0°-37'-26	morning rise	4164 Dec 08 07:31	7°♐01'18	
minimum elong	4159 Jun 12 20:41	23°♐25'54	0°37'27	retrograde	4165 Apr 07 20:21	23°♐51'04	
max. Earth dist.	4159 Jun 15 02:55	23°♐58'15	5.98645 AU	opposition	4165 Jun 07 17:17	18°♐58'53	1°00'26
morning rise	4159 Jun 26 13:32	26°♐41'26		min. Earth dist.	4165 Jun 09 03:16	18°♐48'03	4.42263 AU
	4159 Jul 10 17:26	0°♑		direct	4165 Aug 09 10:33	13°♐57'55	
retrograde	4159 Nov 04 03:39	16°♑49'10			4165 Dec 05 18:49	0°♑	
min. Earth dist.	4160 Jan 01 04:06	11°♑56'59	4.04443 AU	evening set	4165 Dec 13 04:46	1°♑37'09	
opposition	4160 Jan 02 17:21	11°♑44'17	0°-31'-39	max. Earth dist.	4165 Dec 23 17:54	3°♑57'02	6.37227 AU
direct	4160 Feb 29 23:41	6°♑46'40					
evening set	4160 Jul 05 10:41	25°♑56'28		conjunction	4165 Dec 25 22:29	4°♑26'12	0°28'32
				minimum elong	4165 Dec 25 22:30	4°♑26'13	0°28'31
conjunction	4160 Jul 19 04:11	29°♑06'23	0°-3'-45	morning rise	4166 Jan 07 14:36	7°♑14'38	
minimum elong	4160 Jul 19 04:10	29°♑06'22	0°03'46	retrograde	4166 May 10 00:29	24°♑40'59	
behind sun begin	4160 Jul 18 19:52	29°♑01'36		opposition	4166 Jul 09 21:50	19°♑48'47	0°19'43
behind sun end	4160 Jul 19 12:27	29°♑11'08		min. Earth dist.	4166 Jul 11 11:30	19°♑36'46	4.30901 AU
max. Earth dist.	4160 Jul 21 11:11	29°♑38'07	6.11520 AU	direct	4166 Sep 10 00:11	14°♑49'36	
	4160 Jul 23 01:07	0°♒		desc. node	4166 Dec 18 17:47	27°♑19'11	
morning rise	4160 Aug 01 22:40	2°♒16'26			4166 Dec 31 03:24	0°♒	
asc. node	4160 Aug 29 17:12	8°♒26'30		evening set	4167 Jan 13 13:06	3°♒00'16	
	4160 Oct 02 11:20	15°♒		max. Earth dist.	4167 Jan 24 05:46	5°♒26'38	6.23662 AU
retrograde	4160 Dec 07 05:27	21°♒15'48					
opposition	4161 Feb 04 22:28	16°♒12'13	0°20'32	conjunction	4167 Jan 26 06:11	5°♒54'21	0°-3'-19
min. Earth dist.	4161 Feb 03 15:52	16°♒22'34	4.19177 AU	minimum elong	4167 Jan 26 06:10	5°♒54'21	0°03'19
	4161 Feb 13 22:13	15°♒♒		behind sun begin	4167 Jan 25 22:14	5°♒49'49	
direct	4161 Apr 05 09:11	11°♒11'53		behind sun end	4167 Jan 26 14:06	5°♒58'52	
	4161 May 25 17:24	15°♒		morning rise	4167 Feb 07 22:32	8°♒48'25	
evening set	4161 Aug 09 21:52	29°♒38'59			4167 Mar 07 22:35	15°♒	
	4161 Aug 11 11:46	0°♓		retrograde	4167 Jun 13 11:40	27°♒15'23	

opposition	4167 Aug 13 04:17	22° 22 21'40	0°-29'-37	direct	4173 Apr 09 23:45	15° 15 50'56	
min. Earth dist.	4167 Aug 14 10:19	22° 22 12'00	4.15978 AU		4173 Jul 26 03:41	0° 0	
direct	4167 Oct 13 01:32	17° 17 24'55		evening set	4173 Aug 14 14:20	4° 4 13'28	
	4168 Jan 18 21:59	0° 0					
evening set	4168 Feb 15 13:13	6° 6 17'10		conjunction	4173 Aug 28 04:44	7° 7 14'32	0°33'42
max. Earth dist.	4168 Feb 27 00:38	8° 8 59'39	6.08627 AU	minimum elong	4173 Aug 28 04:42	7° 7 14'31	0°33'42
				max. Earth dist.	4173 Aug 29 13:57	7° 7 33'00	6.28559 AU
conjunction	4168 Feb 28 08:07	9° 9 18'17	0°-35'-27	morning rise	4173 Sep 10 18:16	10° 10 14'51	
minimum elong	4168 Feb 28 08:05	9° 9 18'16	0°35'29	retrograde	4174 Jan 12 06:31	27° 27 59'17	
morning rise	4168 Mar 12 04:09	12° 12 20'13		opposition	4174 Mar 13 07:04	22° 22 59'25	1°06'57
	4168 Jun 13 13:57	0° 0		min. Earth dist.	4174 Mar 12 17:54	23° 23 03'48	4.35199 AU
retrograde	4168 Jul 19 07:13	1° 1 58'23		direct	4174 May 13 05:35	17° 17 57'14	
	4168 Aug 24 04:34	30° 30			4174 Aug 20 08:38	0° 0	
opposition	4168 Sep 17 15:07	27° 27 01'40	-1°-12'-12	evening set	4174 Sep 16 19:04	5° 5 45'00	
min. Earth dist.	4168 Sep 18 01:59	26° 26 58'06	4.02089 AU				
direct	4168 Nov 16 01:12	22° 22 07'05		conjunction	4174 Sep 30 03:26	8° 8 38'32	0°54'37
	4169 Jan 28 06:18	0° 0		minimum elong	4174 Sep 30 03:25	8° 8 38'31	0°54'38
evening set	4169 Mar 21 16:16	11° 11 38'25		max. Earth dist.	4174 Sep 30 10:01	8° 8 42'07	6.40666 AU
				morning rise	4174 Oct 13 09:24	11° 11 30'48	
conjunction	4169 Apr 03 16:33	14° 14 46'57	0°-56'-23	retrograde	4175 Feb 11 12:01	28° 28 30'05	
minimum elong	4169 Apr 03 16:31	14° 14 46'56	0°56'24	opposition	4175 Apr 12 21:44	23° 23 33'49	1°25'49
max. Earth dist.	4169 Apr 03 17:23	14° 14 47'28	5.97164 AU	min. Earth dist.	4175 Apr 13 02:31	23° 23 32'15	4.44533 AU
morning rise	4169 Apr 16 18:59	17° 17 56'52		direct	4175 Jun 13 22:12	18° 18 31'17	
	4169 Jun 09 23:33	0° 0			4175 Sep 19 10:02	0° 0	
retrograde	4169 Aug 26 15:40	8° 8 29'40		evening set	4175 Oct 18 07:57	5° 5 59'01	
opposition	4169 Oct 25 12:23	3° 3 29'14	-1°-29'-11	max. Earth dist.	4175 Oct 30 11:29	8° 8 35'41	6.46516 AU
min. Earth dist.	4169 Oct 25 00:31	3° 3 33'12	3.94351 AU				
	4169 Nov 23 16:11	30° 30		conjunction	4175 Oct 31 09:30	8° 8 47'33	0°59'44
direct	4169 Dec 22 19:11	28° 28 35'27		minimum elong	4175 Oct 31 09:30	8° 8 47'33	0°59'44
	4170 Jan 20 17:25	0° 0		morning rise	4175 Nov 13 08:30	11° 11 34'50	
	4170 Apr 13 06:45	15° 15			4175 Nov 29 13:12	15° 15	
evening set	4170 Apr 27 15:46	18° 18 25'42		retrograde	4176 Mar 12 12:33	28° 28 16'28	
				opposition	4176 May 12 04:49	23° 23 22'57	1°21'29
conjunction	4170 May 10 23:39	21° 21 39'22	0°-55'-56	min. Earth dist.	4176 May 13 03:59	23° 23 15'30	4.46661 AU
minimum elong	4170 May 10 23:40	21° 21 39'23	0°55'57	direct	4176 Jul 13 21:38	18° 18 20'54	
max. Earth dist.	4170 May 12 09:21	21° 21 59'48	5.93858 AU		4176 Oct 20 06:13	0° 0	
morning rise	4170 May 24 10:38	24° 24 54'38		evening set	4176 Nov 16 22:19	5° 5 46'35	
	4170 Jun 15 00:36	0° 0		max. Earth dist.	4176 Nov 28 00:08	8° 8 10'37	6.44716 AU
retrograde	4170 Oct 03 16:31	15° 15 36'18					
min. Earth dist.	4170 Dec 01 00:20	10° 10 43'06	3.95980 AU	conjunction	4176 Nov 29 18:47	8° 8 33'49	0°48'49
opposition	4170 Dec 02 07:24	10° 10 32'34	-1°-10'-20	minimum elong	4176 Nov 29 18:48	8° 8 33'50	0°48'50
direct	4171 Jan 29 03:49	5° 5 37'21		morning rise	4176 Dec 12 12:50	11° 11 20'00	
evening set	4171 Jun 04 08:50	25° 25 16'25		retrograde	4177 Apr 12 05:14	28° 28 13'05	
				opposition	4177 Jun 12 02:53	23° 23 20'53	0°55'34
conjunction	4171 Jun 17 23:50	28° 28 30'26	0°-33'-20	min. Earth dist.	4177 Jun 13 13:08	23° 23 09'58	4.41074 AU
minimum elong	4171 Jun 17 23:52	28° 28 30'27	0°33'20	direct	4177 Aug 13 18:16	18° 18 20'02	
max. Earth dist.	4171 Jun 20 06:09	29° 29 02'42	6.00200 AU		4177 Nov 19 04:29	0° 0	
	4171 Jun 24 06:42	0° 0		evening set	4177 Dec 17 12:18	6° 6 02'22	
morning rise	4171 Jul 01 17:15	1° 1 45'28		max. Earth dist.	4177 Dec 28 02:31	8° 8 23'19	6.35711 AU
retrograde	4171 Nov 08 22:23	21° 21 44'49					
min. Earth dist.	4172 Jan 06 00:08	16° 16 52'12	4.06260 AU	conjunction	4177 Dec 30 05:51	8° 8 51'54	0°24'26
opposition	4172 Jan 07 12:00	16° 16 39'59	0°-24'-35	minimum elong	4177 Dec 30 05:52	8° 8 51'55	0°24'26
direct	4172 Mar 05 22:39	11° 11 41'57		morning rise	4178 Jan 11 21:41	11° 11 40'51	
	4172 Jul 06 23:28	0° 0		retrograde	4178 May 14 16:14	29° 29 13'44	
evening set	4172 Jul 10 08:39	0° 0 46'18		opposition	4178 Jul 14 13:17	24° 24 21'23	0°13'01
asc. node	4172 Jul 11 06:29	0° 0 58'46		min. Earth dist.	4178 Jul 16 02:54	24° 24 09'22	4.29117 AU
				direct	4178 Sep 14 12:44	19° 19 22'29	
conjunction	4172 Jul 24 02:17	3° 3 55'22	0°01'11	desc. node	4178 Oct 28 14:29	22° 22 13'34	
minimum elong	4172 Jul 24 02:15	3° 3 55'21	0°01'10		4178 Dec 13 23:20	0° 0	
behind sun begin	4172 Jul 23 17:51	3° 3 50'34		evening set	4179 Jan 18 00:33	7° 7 37'47	
behind sun end	4172 Jul 24 10:38	4° 4 00'09		max. Earth dist.	4179 Jan 28 17:23	10° 10 04'57	6.21726 AU
max. Earth dist.	4172 Jul 26 08:39	4° 4 26'36	6.13453 AU				
morning rise	4172 Aug 06 20:22	7° 7 04'24		conjunction	4179 Jan 30 17:31	10° 10 32'38	0°-8'-1
	4172 Sep 12 05:05	15° 15		minimum elong	4179 Jan 30 17:31	10° 10 32'38	0°08'01
retrograde	4172 Dec 11 16:21	25° 25 54'41		behind sun begin	4179 Jan 30 10:22	10° 10 28'32	
min. Earth dist.	4173 Feb 08 04:30	21° 21 01'27	4.21056 AU	behind sun end	4179 Jan 31 00:40	10° 10 36'43	
opposition	4173 Feb 09 09:53	20° 20 51'32	0°27'08	morning rise	4179 Feb 12 10:19	13° 13 27'38	

	4179 Feb 19 04:33	15°♊		retrograde	4184 Dec 16 05:52	0°♎40'16	
	4179 May 12 15:10	0°♋			4185 Jan 05 10:22	30°♎♊	
retrograde	4179 Jun 18 10:36	2°♋03'40		min. Earth dist.	4185 Feb 12 20:35	25°♎46'51	4.23053 AU
	4179 Jul 25 12:36	30°♎♊		opposition	4185 Feb 14 00:14	25°♎37'32	0°33'47
opposition	4179 Aug 18 02:34	27°♎09'32	0°-36'-22	direct	4185 Apr 14 18:30	20°♎36'42	
min. Earth dist.	4179 Aug 19 06:16	27°♎00'35	4.14014 AU		4185 Jul 07 18:10	0°♎	
direct	4179 Oct 17 18:57	22°♎13'02		evening set	4185 Aug 19 09:15	8°♎54'06	
	4179 Dec 30 20:20	0°♋					
evening set	4180 Feb 20 06:48	11°♋10'45		conjunction	4185 Sep 01 23:06	11°♎54'05	0°37'30
max. Earth dist.	4180 Mar 02 23:38	13°♋57'01	6.06813 AU	minimum elong	4185 Sep 01 23:05	11°♎54'04	0°37'29
				max. Earth dist.	4185 Sep 03 06:55	12°♎11'42	6.30517 AU
conjunction	4180 Mar 04 02:21	14°♋12'53	0°-39'-19	morning rise	4185 Sep 15 11:31	14°♎53'09	
minimum elong	4180 Mar 04 02:19	14°♋12'52	0°39'19		4185 Dec 07 03:55	0°♎	
morning rise	4180 Mar 16 22:54	17°♋15'52		retrograde	4186 Jan 16 14:10	2°♎29'45	
	4180 May 15 03:42	0°♎			4186 Feb 25 22:24	30°♎♎	
retrograde	4180 Jul 24 13:33	7°♎02'52		opposition	4186 Mar 17 16:02	27°♎30'27	1°10'57
opposition	4180 Sep 22 19:16	2°♎05'42	-1°-16'-26	min. Earth dist.	4186 Mar 17 04:14	27°♎34'22	4.36993 AU
min. Earth dist.	4180 Sep 23 04:02	2°♎02'50	4.00602 AU	direct	4186 May 17 18:02	22°♎28'17	
	4180 Oct 09 06:43	30°♎♋			4186 Aug 01 06:23	0°♎	
direct	4180 Nov 21 01:22	27°♋11'21		evening set	4186 Sep 21 07:34	10°♎11'37	
	4181 Jan 01 22:38	0°♎					
evening set	4181 Mar 26 16:42	16°♎46'46		conjunction	4186 Oct 04 14:44	13°♎04'07	0°56'19
				minimum elong	4186 Oct 04 14:43	13°♎04'06	0°56'19
conjunction	4181 Apr 08 17:47	19°♎56'11	0°-57'-43	max. Earth dist.	4186 Oct 04 16:37	13°♎05'08	6.42174 AU
minimum elong	4181 Apr 08 17:46	19°♎56'11	0°57'45	morning rise	4186 Oct 17 19:46	15°♎55'23	
max. Earth dist.	4181 Apr 08 21:48	19°♎58'37	5.96130 AU		4187 Jan 03 05:42	0°♎	
morning rise	4181 Apr 21 21:30	23°♎07'08		retrograde	4187 Feb 15 17:13	2°♎49'30	
	4181 May 21 08:29	0°♋			4187 Mar 31 09:11	30°♎♎	
retrograde	4181 Aug 31 22:31	13°♋44'29		opposition	4187 Apr 17 03:27	27°♎53'40	1°26'33
opposition	4181 Oct 30 18:39	8°♋43'33	-1°-28'-41	min. Earth dist.	4187 Apr 17 11:14	27°♎51'08	4.45678 AU
min. Earth dist.	4181 Oct 30 02:59	8°♋48'48	3.93909 AU	direct	4187 Jun 18 07:55	22°♎51'09	
direct	4181 Dec 27 21:45	3°♋49'41			4187 Aug 31 12:06	0°♎	
	4182 Mar 26 06:26	15°♋		evening set	4187 Oct 22 14:52	10°♎16'03	
evening set	4182 May 02 20:38	23°♋40'41					
				conjunction	4187 Nov 04 15:40	13°♎04'00	0°59'08
conjunction	4182 May 16 05:41	26°♋54'49	0°-53'-57	minimum elong	4187 Nov 04 15:40	13°♎04'01	0°59'08
minimum elong	4182 May 16 05:43	26°♋54'50	0°53'59	max. Earth dist.	4187 Nov 03 15:34	12°♎51'02	6.47214 AU
max. Earth dist.	4182 May 17 19:02	27°♋17'26	5.94046 AU		4187 Nov 13 15:09	15°♎	
morning rise	4182 May 29 17:43	0°♎10'29		morning rise	4187 Nov 17 13:38	15°♎50'40	
	4182 May 29 00:17	0°♎			4188 Feb 04 15:06	0°♋	
retrograde	4182 Oct 08 20:53	20°♎49'51		retrograde	4188 Mar 16 15:04	2°♋30'31	
min. Earth dist.	4182 Dec 06 03:08	15°♎56'38	3.96760 AU		4188 Apr 26 23:35	30°♎♎	
opposition	4182 Dec 07 10:56	15°♎45'49	-1°-5'-8	opposition	4188 May 16 09:41	27°♎37'15	1°19'04
direct	4183 Feb 03 08:34	10°♎50'16		min. Earth dist.	4188 May 17 09:47	27°♎29'31	4.46874 AU
	4183 Jun 07 17:03	0°♋		direct	4188 Jul 18 02:27	22°♎35'20	
evening set	4183 Jun 09 14:01	0°♋26'27			4188 Oct 01 21:43	0°♋	
				evening set	4188 Nov 21 02:14	10°♋00'24	
conjunction	4183 Jun 23 05:52	3°♋40'14	0°-28'-53	max. Earth dist.	4188 Dec 02 01:31	12°♋23'15	6.44416 AU
minimum elong	4183 Jun 23 05:54	3°♋40'15	0°28'54				
max. Earth dist.	4183 Jun 25 14:43	4°♋13'52	6.01506 AU	conjunction	4188 Dec 03 22:00	12°♋47'29	0°46'10
morning rise	4183 Jul 06 23:44	6°♋54'52		minimum elong	4188 Dec 03 22:02	12°♋47'30	0°46'10
retrograde	4183 Nov 13 20:09	26°♋46'26		morning rise	4188 Dec 16 15:32	15°♋33'36	
min. Earth dist.	4184 Jan 10 20:59	21°♋54'03	4.07946 AU		4189 Mar 06 15:42	0°♋	
opposition	4184 Jan 12 09:02	21°♋41'47	0°-17'-10	retrograde	4189 Apr 16 12:40	2°♋28'50	
direct	4184 Mar 10 22:01	16°♋43'26			4189 May 27 18:38	30°♎♋	
asc. node	4184 May 20 20:25	24°♋01'18		opposition	4189 Jun 16 10:04	27°♋36'43	0°50'35
	4184 Jun 19 17:14	0°♎		min. Earth dist.	4189 Jun 17 22:31	27°♋25'06	4.40242 AU
evening set	4184 Jul 15 10:10	5°♎42'57		direct	4189 Aug 18 01:38	22°♋36'03	
					4189 Oct 31 22:42	0°♋	
conjunction	4184 Jul 29 03:31	8°♎51'05	0°06'11	evening set	4189 Dec 21 16:26	10°♋20'26	
minimum elong	4184 Jul 29 03:30	8°♎51'04	0°06'11	max. Earth dist.	4190 Jan 01 04:13	12°♋40'30	6.34395 AU
behind sun begin	4184 Jul 28 19:35	8°♎46'34					
behind sun end	4184 Jul 29 11:24	8°♎55'35		conjunction	4190 Jan 03 09:40	13°♋10'21	0°20'22
max. Earth dist.	4184 Jul 31 07:00	9°♎20'32	6.15376 AU	minimum elong	4190 Jan 03 09:41	13°♋10'22	0°20'22
morning rise	4184 Aug 11 21:29	11°♎59'08		morning rise	4190 Jan 16 01:30	15°♋59'48	
	4184 Aug 25 08:16	15°♎			4190 Mar 30 05:42	0°♋	
	4184 Nov 25 21:50	0°♎		retrograde	4190 May 19 03:52	3°♋38'59	

	4190 Jul 09 08:21	30° $\text{R}\overline{\text{Z}}$				4195 Dec 22 17:47	30° $\text{R}\overline{\text{Z}}$	
opposition	4190 Jul 19 01:13	28° $\overline{\text{Z}}46'25$	0°06'29	min. Earth dist.		4196 Jan 15 19:16	26° $\overline{\text{Z}}59'53$	4.09659 AU
min. Earth dist.	4190 Jul 20 14:15	28° $\overline{\text{Z}}34'34$	4.27375 AU	opposition		4196 Jan 17 07:34	26° $\overline{\text{Z}}47'31$	0°-9'-36
desc. node	4190 Sep 09 14:01	23° $\overline{\text{Z}}55'48$		direct		4196 Mar 15 23:51	21° $\overline{\text{Z}}48'41$	
direct	4190 Sep 18 20:43	23° $\overline{\text{Z}}47'43$		asc. node		4196 Mar 29 16:09	22° $\overline{\text{Z}}07'30$	
	4190 Nov 24 12:53	0° \approx				4196 May 30 23:13	0° Ω	
evening set	4191 Jan 22 08:37	12° $\approx07'57$		evening set		4196 Jul 20 12:58	10° $\Omega42'50$	
max. Earth dist.	4191 Feb 02 03:48	14° $\approx37'05$	6.19697 AU					
	4191 Feb 03 19:27	15° \approx		conjunction		4196 Aug 03 06:15	13° $\Omega49'58$	0°11'08
				minimum elong		4196 Aug 03 06:14	13° $\Omega49'57$	0°11'09
conjunction	4191 Feb 04 01:51	15° $\approx03'41$	0°-12'-30	behind sun begin		4196 Aug 03 00:08	13° $\Omega46'29$	
minimum elong	4191 Feb 04 01:50	15° $\approx03'41$	0°12'31	behind sun end		4196 Aug 03 12:20	13° $\Omega53'24$	
behind sun begin	4191 Feb 03 20:34	15° $\approx00'39$		max. Earth dist.		4196 Aug 05 09:35	14° $\Omega19'11$	6.17429 AU
behind sun end	4191 Feb 04 07:06	15° $\approx06'43$				4196 Aug 08 09:20	15° Ω	
morning rise	4191 Feb 16 18:49	17° $\approx59'38$		morning rise		4196 Aug 16 23:33	16° $\Omega56'49$	
	4191 Apr 15 01:04	0° H				4196 Oct 20 16:09	0° H	
retrograde	4191 Jun 23 07:48	6° $\text{H}45'21$		retrograde		4196 Dec 20 20:38	5° $\text{H}27'58$	
opposition	4191 Aug 22 21:42	1° $\text{H}50'54$	0°-42'-42	opposition		4197 Feb 18 15:32	0° $\text{H}25'32$	0°40'13
min. Earth dist.	4191 Aug 24 00:59	1° $\text{H}42'05$	4.11832 AU	min. Earth dist.		4197 Feb 17 13:28	0° $\text{H}34'18$	4.25212 AU
	4191 Sep 06 12:51	30° $\text{R}\approx$				4197 Feb 21 19:36	30° $\text{R}\Omega$	
direct	4191 Oct 22 10:13	26° $\approx54'40$		direct		4197 Apr 19 14:29	25° $\Omega24'24$	
	4191 Dec 06 05:30	0° H				4197 Jun 14 22:43	0° H	
evening set	4192 Feb 24 21:58	15° $\text{H}59'00$		evening set		4197 Aug 24 05:03	13° $\text{H}35'49$	
conjunction	4192 Mar 08 18:03	19° $\text{H}02'20$	0°-42'-47	conjunction		4197 Sep 06 17:54	16° $\text{H}34'33$	0°41'05
minimum elong	4192 Mar 08 18:01	19° $\text{H}02'19$	0°42'48	minimum elong		4197 Sep 06 17:52	16° $\text{H}34'32$	0°41'05
max. Earth dist.	4192 Mar 07 16:43	18° $\text{H}47'13$	6.04661 AU	max. Earth dist.		4197 Sep 07 21:25	16° $\text{H}49'43$	6.32565 AU
morning rise	4192 Mar 21 15:38	22° $\text{H}06'41$		morning rise		4197 Sep 20 05:25	19° $\text{H}32'19$	
	4192 Apr 25 05:24	0° Y				4197 Nov 11 00:28	0° $\underline{\text{Z}}$	
retrograde	4192 Jul 29 16:51	12° $\text{Y}04'06$		retrograde		4198 Jan 20 21:33	7° $\underline{\text{Z}}00'45$	
opposition	4192 Sep 27 21:30	7° $\text{Y}06'26$	-1°-20'-4	opposition		4198 Mar 22 01:22	2° $\underline{\text{Z}}01'50$	1°14'34
min. Earth dist.	4192 Sep 28 02:39	7° $\text{Y}04'44$	3.98696 AU	min. Earth dist.		4198 Mar 21 16:11	2° $\underline{\text{Z}}04'52$	4.38767 AU
direct	4192 Nov 25 21:58	2° $\text{Y}12'12$				4198 Apr 06 21:59	30° RH	
evening set	4193 Mar 31 16:19	21° $\text{Y}53'39$		direct		4198 May 22 07:55	26° $\text{H}59'28$	
						4198 Jul 07 02:51	0° $\underline{\text{Z}}$	
conjunction	4193 Apr 13 18:35	25° $\text{Y}04'16$	0°-58'-36	evening set		4198 Sep 25 20:09	14° $\underline{\text{Z}}38'28$	
minimum elong	4193 Apr 13 18:35	25° $\text{Y}04'16$	0°58'37					
max. Earth dist.	4193 Apr 14 03:34	25° $\text{Y}09'44$	5.94661 AU	conjunction		4198 Oct 09 02:29	17° $\underline{\text{Z}}30'03$	0°57'42
morning rise	4193 Apr 26 23:27	28° $\text{Y}16'26$		minimum elong		4198 Oct 09 02:28	17° $\underline{\text{Z}}30'02$	0°57'42
	4193 May 04 03:59	0° Z		max. Earth dist.		4198 Oct 09 01:40	17° $\underline{\text{Z}}29'37$	6.43523 AU
	4193 Jul 17 00:27	15° Z		morning rise		4198 Oct 22 06:14	20° $\underline{\text{Z}}20'19$	
retrograde	4193 Sep 06 07:00	19° $\text{Z}00'10$				4198 Dec 09 16:07	0° M	
	4193 Oct 28 09:05	15° RZ		retrograde		4199 Feb 19 21:45	7° $\text{M}10'00$	
min. Earth dist.	4193 Nov 04 07:05	14° $\text{Z}04'38$	3.93046 AU	opposition		4199 Apr 21 10:01	2° $\text{M}14'35$	1°26'50
opposition	4193 Nov 05 00:48	13° $\text{Z}58'40$	-1°-27'-30	min. Earth dist.		4199 Apr 21 19:54	2° $\text{M}11'23$	4.46515 AU
direct	4194 Jan 02 01:50	9° $\text{Z}04'40$				4199 May 09 08:53	30° $\text{R}\underline{\text{Z}}$	
	4194 Mar 04 16:05	15° Z		direct		4199 Jun 22 16:44	27° $\underline{\text{Z}}12'08$	
evening set	4194 May 08 02:42	28° $\text{Z}58'09$				4199 Aug 06 07:23	0° M	
	4194 May 12 09:17	0° II		evening set		4199 Oct 26 22:52	14° $\text{M}35'16$	
						4199 Oct 28 21:08	15° M	
conjunction	4194 May 21 13:06	2° $\text{II}12'58$	0°-51'-32					
minimum elong	4194 May 21 13:07	2° $\text{II}12'59$	0°51'34	conjunction		4199 Nov 08 22:39	17° $\text{M}22'46$	0°58'11
max. Earth dist.	4194 May 23 07:25	2° $\text{II}38'34$	5.93884 AU	minimum elong		4199 Nov 08 22:40	17° $\text{M}22'46$	0°58'12
morning rise	4194 Jun 04 02:19	5° $\text{II}29'15$		max. Earth dist.		4199 Nov 07 17:46	17° $\text{M}07'12$	6.47458 AU
retrograde	4194 Oct 14 02:59	26° $\text{II}07'04$		morning rise		4199 Nov 21 19:58	20° $\text{M}09'04$	
min. Earth dist.	4194 Dec 11 05:27	21° $\text{II}14'17$	3.97327 AU			4200 Jan 10 11:53	0° Z	
opposition	4194 Dec 12 15:22	21° $\text{II}02'45$	0°-59'-23	retrograde		4200 Mar 21 22:46	6° $\text{Z}48'51$	
direct	4195 Feb 08 12:47	16° $\text{II}06'51$		opposition		4200 May 21 17:01	1° $\text{Z}55'51$	1°16'11
	4195 May 21 04:05	0° $\overline{\text{Z}}$		min. Earth dist.		4200 May 22 20:20	1° $\text{Z}47'06$	4.46513 AU
evening set	4195 Jun 14 21:22	5° $\overline{\text{Z}}40'49$				4200 Jun 06 04:28	30° RM	
				direct		4200 Jul 23 11:42	26° $\text{M}54'02$	
conjunction	4195 Jun 28 13:45	8° $\overline{\text{Z}}54'19$	0°-24'-10			4200 Sep 08 14:19	0° Z	
minimum elong	4195 Jun 28 13:46	8° $\overline{\text{Z}}54'19$	0°24'12	evening set		4200 Nov 26 08:49	14° $\text{Z}20'24$	
max. Earth dist.	4195 Jun 30 22:51	9° $\overline{\text{Z}}27'59$	6.02726 AU	max. Earth dist.		4200 Dec 07 05:45	16° $\text{Z}42'19$	6.43469 AU
morning rise	4195 Jul 12 08:16	12° $\overline{\text{Z}}08'34$						
	4195 Oct 15 11:29	0° Ω		conjunction		4200 Dec 09 04:13	17° $\text{Z}07'41$	0°43'11
retrograde	4195 Nov 18 17:29	1° $\Omega52'13$		minimum elong		4200 Dec 09 04:14	17° $\text{Z}07'41$	0°43'11

morning rise	4200 Dec 21 21:15	19°♏54'00		morning rise	4206 Jun 10 13:59	10°♊55'04	
	4201 Feb 10 03:54	0°♌			4206 Sep 20 07:46	0°♍	
retrograde	4201 Apr 21 22:40	6°♌53'36		retrograde	4206 Oct 20 07:20	1°♍27'05	
opposition	4201 Jun 21 21:11	2°♌01'30	0°45'06		4206 Nov 19 02:11	30°♊	
min. Earth dist.	4201 Jun 23 09:48	1°♌49'50	4.38766 AU	min. Earth dist.	4206 Dec 17 08:43	26°♊34'40	3.98843 AU
	4201 Jul 08 05:56	30°♊		opposition	4206 Dec 18 20:25	26°♊22'30	0°-53'-6
direct	4201 Aug 23 09:49	27°♏01'04		direct	4207 Feb 14 19:49	21°♊26'11	
	4201 Oct 08 04:06	0°♌			4207 May 02 08:52	0°♍	
evening set	4201 Dec 27 01:22	14°♌49'47		evening set	4207 Jun 21 04:21	10°♍54'31	
max. Earth dist.	4202 Jan 06 13:19	17°♌10'33	6.32498 AU				
				conjunction	4207 Jul 04 21:17	14°♍07'15	0°-19'-19
conjunction	4202 Jan 08 18:26	17°♌40'22	0°15'58	minimum elong	4207 Jul 04 21:19	14°♍07'16	0°19'20
minimum elong	4202 Jan 08 18:27	17°♌40'22	0°15'59	max. Earth dist.	4207 Jul 07 07:57	14°♍41'41	6.04815 AU
behind sun begin	4202 Jan 08 17:02	17°♌39'35		morning rise	4207 Jul 18 15:48	17°♍20'33	
behind sun end	4202 Jan 08 19:52	17°♌41'10			4207 Sep 16 11:14	0°♎	
morning rise	4202 Jan 21 10:14	20°♌30'35		retrograde	4207 Nov 24 13:43	6°♎53'13	
	4202 Mar 07 17:50	0°♏		min. Earth dist.	4208 Jan 21 16:48	2°♎00'37	4.12066 AU
retrograde	4202 May 25 00:01	8°♏18'13		opposition	4208 Jan 23 03:51	1°♎48'42	0°-2'-7
desc. node	4202 Jul 20 21:30	3°♏55'34			4208 Feb 05 19:44	30°♊	
opposition	4202 Jul 24 19:34	3°♏25'32	0°00'-28	asc. node	4208 Feb 08 05:58	29°♍41'56	
min. Earth dist.	4202 Jul 26 09:05	3°♏13'32	4.25159 AU	direct	4208 Mar 22 00:32	26°♍49'30	
	4202 Aug 23 09:29	30°♊			4208 May 06 06:20	0°♎	
direct	4202 Sep 24 12:06	28°♌27'11			4208 Jul 23 20:32	15°♎	
	4202 Oct 26 09:49	0°♏		evening set	4208 Jul 26 13:06	15°♎36'17	
	4203 Jan 19 15:50	15°♏					
evening set	4203 Jan 27 23:05	16°♏53'52		conjunction	4208 Aug 09 05:53	18°♎42'06	0°15'54
max. Earth dist.	4203 Feb 07 19:11	19°♏24'22	6.17345 AU	minimum elong	4208 Aug 09 05:52	18°♎42'05	0°15'54
				max. Earth dist.	4208 Aug 11 06:21	19°♎09'32	6.19931 AU
conjunction	4203 Feb 09 16:31	19°♏50'41	0°-17'-12	morning rise	4208 Aug 22 22:39	21°♎47'34	
minimum elong	4203 Feb 09 16:30	19°♏50'41	0°17'13		4208 Sep 30 07:35	0°♐	
morning rise	4203 Feb 22 10:04	22°♏47'51		retrograde	4208 Dec 26 05:39	10°♐07'49	
	4203 Mar 26 17:51	0°♑		min. Earth dist.	4209 Feb 23 02:54	5°♐14'01	4.27588 AU
retrograde	4203 Jun 29 10:26	11°♑44'33		opposition	4209 Feb 24 03:20	5°♐05'49	0°46'09
opposition	4203 Aug 29 00:11	6°♑49'45	0°-49'-10	direct	4209 Apr 25 06:43	0°♐04'24	
min. Earth dist.	4203 Aug 30 00:07	6°♑41'59	4.09543 AU	evening set	4209 Aug 29 20:55	18°♐09'37	
direct	4203 Oct 28 06:30	1°♑53'54					
evening set	4204 Mar 01 20:30	21°♑05'10		conjunction	4209 Sep 12 08:57	21°♐07'07	0°44'17
				minimum elong	4209 Sep 12 08:55	21°♐07'06	0°44'18
conjunction	4204 Mar 14 17:20	24°♑09'42	0°-46'-11	max. Earth dist.	4209 Sep 13 08:24	21°♐19'59	6.34635 AU
minimum elong	4204 Mar 14 17:18	24°♑09'41	0°46'11	morning rise	4209 Sep 25 19:19	24°♐03'34	
max. Earth dist.	4204 Mar 13 21:02	23°♑57'33	6.02656 AU		4209 Oct 23 22:32	0°♑	
morning rise	4204 Mar 27 15:43	27°♑15'20		retrograde	4210 Jan 26 03:02	11°♑24'27	
	4204 Apr 08 06:46	0°♒		opposition	4210 Mar 27 07:52	6°♑26'05	1°17'37
retrograde	4204 Aug 05 05:09	17°♒22'24		min. Earth dist.	4210 Mar 27 01:56	6°♑28'02	4.40381 AU
opposition	4204 Oct 04 06:36	12°♒24'17	-1°-23'-17	direct	4210 May 27 19:09	1°♑23'39	
min. Earth dist.	4204 Oct 04 09:09	12°♒23'27	3.97197 AU	evening set	4210 Oct 01 05:40	18°♑59'01	
direct	4204 Dec 02 03:32	7°♒30'16					
evening set	4205 Apr 06 22:25	27°♒15'59		conjunction	4210 Oct 14 10:58	21°♑49'47	0°58'44
	4205 Apr 18 04:35	0°♓		minimum elong	4210 Oct 14 10:57	21°♑49'47	0°58'43
				max. Earth dist.	4210 Oct 14 04:28	21°♑46'17	6.44549 AU
conjunction	4205 Apr 20 01:51	0°♓27'33	0°-59'-4	morning rise	4210 Oct 27 13:51	24°♑39'17	
minimum elong	4205 Apr 20 01:51	0°♓27'33	0°59'04		4210 Nov 22 05:00	0°♒	
max. Earth dist.	4205 Apr 20 16:36	0°♓36'31	5.93835 AU	retrograde	4211 Feb 25 01:29	11°♒25'54	
morning rise	4205 May 03 07:58	3°♓40'40		opposition	4211 Apr 26 14:39	6°♒30'52	1°26'40
	4205 Jun 22 11:44	15°♓		min. Earth dist.	4211 Apr 27 03:43	6°♒26'38	4.46920 AU
retrograde	4205 Sep 12 18:30	24°♓27'18		direct	4211 Jun 28 00:10	1°♒28'23	
opposition	4205 Nov 11 11:08	19°♓25'23	-1°-25'-31		4211 Oct 13 20:46	15°♒	
min. Earth dist.	4205 Nov 10 13:48	19°♓32'34	3.93042 AU	evening set	4211 Nov 01 04:58	18°♒51'12	
	4205 Dec 22 18:11	15°♓		max. Earth dist.	4211 Nov 12 21:07	21°♒21'46	6.47214 AU
direct	4206 Jan 08 09:09	14°♓31'20					
	4206 Jan 25 01:30	15°♓		conjunction	4211 Nov 14 04:13	21°♒38'32	0°56'58
	4206 Apr 25 22:23	0°♐		minimum elong	4211 Nov 14 04:14	21°♒38'33	0°56'58
evening set	4206 May 14 12:19	4°♐23'47		morning rise	4211 Nov 27 00:40	24°♒24'39	
					4211 Dec 23 20:44	0°♑	
conjunction	4206 May 27 23:37	7°♐38'41	0°-48'-39	retrograde	4212 Mar 26 03:55	11°♑06'01	
minimum elong	4206 May 27 23:39	7°♐38'43	0°48'40	opposition	4212 May 25 23:39	6°♑13'13	1°12'58
max. Earth dist.	4206 May 29 20:39	8°♐05'52	5.94689 AU	min. Earth dist.	4212 May 27 04:27	6°♑04'01	4.45645 AU

direct	4212 Jul 27 17:51	1°♏11'34		morning rise	4218 Jun 15 23:52	16°♊15'03	
evening set	4212 Nov 30 15:11	18°♏40'46			4218 Aug 18 21:03	0°♎	
max. Earth dist.	4212 Dec 11 08:51	21°♏01'27	6.42032 AU	retrograde	4218 Oct 25 10:26	6°♎39'47	
				min. Earth dist.	4218 Dec 22 11:10	1°♎47'13	4.00589 AU
conjunction	4212 Dec 13 10:02	21°♏28'25	0°39'59	opposition	4218 Dec 23 22:48	1°♎35'04	0°-46'-30
minimum elong	4212 Dec 13 10:03	21°♏28'25	0°39'59		4219 Jan 04 19:12	30°♊	
morning rise	4212 Dec 26 02:55	24°♏15'13		direct	4219 Feb 20 00:49	26°♊38'23	
	4213 Jan 22 06:21	0°♎			4219 Apr 06 20:33	0°♎	
retrograde	4213 Apr 26 12:23	11°♎20'53		evening set	4219 Jun 26 08:57	16°♎00'40	
opposition	4213 Jun 26 09:42	6°♎28'48	0°39'22				
min. Earth dist.	4213 Jun 27 23:54	6°♎16'37	4.36839 AU	conjunction	4219 Jul 10 02:05	19°♎12'32	0°-14'-23
direct	4213 Aug 27 21:06	1°♎28'36		minimum elong	4219 Jul 10 02:06	19°♎12'33	0°14'24
evening set	4213 Dec 31 11:20	19°♎22'50		behind sun begin	4219 Jul 09 22:32	19°♎10'28	
max. Earth dist.	4214 Jan 10 23:28	21°♎44'26	6.30237 AU	behind sun end	4219 Jul 10 05:40	19°♎14'37	
				max. Earth dist.	4219 Jul 12 12:14	19°♎46'28	6.06937 AU
conjunction	4214 Jan 13 04:28	22°♎14'19	0°11'27	morning rise	4219 Jul 23 20:46	22°♎24'52	
minimum elong	4214 Jan 13 04:28	22°♎14'19	0°11'27		4219 Aug 26 23:18	0°♏	
behind sun begin	4214 Jan 12 22:38	22°♎11'03		retrograde	4219 Nov 29 05:22	11°♏46'54	
behind sun end	4214 Jan 13 10:17	22°♎17'35		asc. node	4219 Dec 19 01:16	11°♏07'52	
morning rise	4214 Jan 25 20:20	25°♎05'28		min. Earth dist.	4220 Jan 26 10:49	6°♏54'26	4.14351 AU
	4214 Feb 17 04:53	0°♏		opposition	4220 Jan 27 21:33	6°♏42'39	0°05'14
retrograde	4214 May 29 20:05	13°♏02'46		direct	4220 Mar 26 21:21	1°♏43'07	
desc. node	4214 May 30 05:17	13°♏02'45			4220 Jul 06 20:27	15°♏	
opposition	4214 Jul 29 15:58	8°♏09'52	0°-7'-32	evening set	4220 Jul 31 10:52	20°♏23'25	
min. Earth dist.	4214 Jul 31 03:14	7°♏58'34	4.22733 AU				
direct	4214 Sep 29 03:10	3°♏11'53		conjunction	4220 Aug 14 03:10	23°♏28'02	0°20'30
	4215 Jan 02 08:45	15°♏		minimum elong	4220 Aug 14 03:08	23°♏28'01	0°20'30
evening set	4215 Feb 01 15:54	21°♏45'34		max. Earth dist.	4220 Aug 15 23:50	23°♏53'12	6.22193 AU
max. Earth dist.	4215 Feb 12 15:47	24°♏19'04	6.14967 AU	morning rise	4220 Aug 27 19:11	26°♏32'11	
					4220 Sep 12 12:46	0°♐	
conjunction	4215 Feb 14 09:37	24°♏43'29	0°-21'-51	retrograde	4220 Dec 30 16:14	14°♐43'01	
minimum elong	4215 Feb 14 09:36	24°♏43'28	0°21'51	opposition	4221 Feb 28 13:55	9°♐41'32	0°51'45
morning rise	4215 Feb 27 03:40	27°♏41'51		min. Earth dist.	4221 Feb 27 16:49	9°♐48'36	4.29637 AU
	4215 Mar 09 03:27	0°♑		direct	4221 Apr 29 22:57	4°♐39'57	
retrograde	4215 Jul 04 18:03	16°♑49'29		evening set	4221 Sep 03 11:43	22°♐40'14	
opposition	4215 Sep 03 05:10	11°♑54'15	0°-55'-22				
min. Earth dist.	4215 Sep 04 02:50	11°♑47'13	4.07416 AU	conjunction	4221 Sep 16 22:53	25°♐36'41	0°47'14
direct	4215 Nov 02 07:34	6°♑58'44		minimum elong	4221 Sep 16 22:52	25°♐36'40	0°47'14
evening set	4216 Mar 06 20:59	26°♑15'55		max. Earth dist.	4221 Sep 17 18:19	25°♐47'19	6.36312 AU
				morning rise	4221 Sep 30 08:14	28°♐32'03	
conjunction	4216 Mar 19 18:37	29°♑21'32	0°-49'-14		4221 Oct 07 03:05	0°♑	
minimum elong	4216 Mar 19 18:35	29°♑21'31	0°49'16	retrograde	4222 Jan 30 07:12	15°♑46'54	
max. Earth dist.	4216 Mar 19 03:21	29°♑12'22	6.00982 AU	opposition	4222 Mar 31 14:01	10°♑49'03	1°20'16
	4216 Mar 22 10:36	0°♒		min. Earth dist.	4222 Mar 31 10:21	10°♑50'15	4.41603 AU
morning rise	4216 Apr 01 17:57	2°♒28'20		direct	4222 Jun 01 04:14	5°♑46'35	
retrograde	4216 Aug 10 16:10	22°♒43'08		evening set	4222 Oct 05 15:11	23°♑19'40	
opposition	4216 Oct 09 16:42	17°♒44'26	-1°-25'-47				
min. Earth dist.	4216 Oct 09 14:57	17°♒45'01	3.96186 AU	conjunction	4222 Oct 18 19:36	26°♑09'50	0°59'26
direct	4216 Dec 07 08:32	12°♒50'35		minimum elong	4222 Oct 18 19:35	26°♑09'49	0°59'27
	4217 Apr 01 04:58	0°♒		max. Earth dist.	4222 Oct 18 09:34	26°♑04'25	6.45231 AU
evening set	4217 Apr 12 05:04	2°♒38'20		morning rise	4222 Oct 31 21:27	28°♑58'42	
					4222 Nov 05 16:24	0°♒	
conjunction	4217 Apr 25 09:24	5°♒50'29	0°-59'00		4223 Feb 07 16:50	15°♒	
minimum elong	4217 Apr 25 09:25	5°♒50'30	0°59'02	retrograde	4223 Mar 01 06:25	15°♒43'27	
max. Earth dist.	4217 Apr 26 04:23	6°♒02'02	5.93552 AU		4223 Mar 22 18:12	15°♒	
morning rise	4217 May 08 16:45	9°♒04'16		opposition	4223 Apr 30 20:20	10°♒48'53	1°26'03
	4217 Jun 02 20:21	15°♒		min. Earth dist.	4223 May 01 12:14	10°♒43'45	4.47034 AU
retrograde	4217 Sep 18 03:11	29°♒51'12		direct	4223 Jul 02 08:20	5°♒46'33	
opposition	4217 Nov 16 20:05	24°♒48'44	-1°-22'-46		4223 Sep 26 05:51	15°♒	
min. Earth dist.	4217 Nov 15 19:41	24°♒56'59	3.93523 AU	evening set	4223 Nov 05 11:55	23°♒09'48	
direct	4218 Jan 13 17:44	19°♒54'26		max. Earth dist.	4223 Nov 16 22:57	25°♒37'55	6.46737 AU
	4218 Apr 07 01:12	0°♓					
evening set	4218 May 19 20:26	9°♓44'06		conjunction	4223 Nov 18 10:22	25°♓57'03	0°55'24
				minimum elong	4223 Nov 18 10:23	25°♓57'04	0°55'24
conjunction	4218 Jun 02 08:50	12°♓58'56	0°-45'-23	morning rise	4223 Dec 01 06:20	28°♓43'09	
minimum elong	4218 Jun 02 08:52	12°♓58'57	0°45'24		4223 Dec 07 06:01	0°♓	
max. Earth dist.	4218 Jun 04 10:14	13°♓28'39	5.95879 AU	retrograde	4224 Mar 30 12:26	15°♓26'59	

opposition	4224 May 30 08:13	10°♂34'24	1°09'17			4230 Mar 15 07:37	0°♂	
min. Earth dist.	4224 May 31 14:56	10°♂24'34	4.44624 AU	evening set		4230 May 25 00:26	14°♂54'21	
direct	4224 Aug 01 02:27	5°♂32'56						
evening set	4224 Dec 04 22:50	23°♂05'21		conjunction		4230 Jun 07 13:34	18°♂08'55	0°-41'-52
max. Earth dist.	4224 Dec 15 16:16	25°♂26'23	6.40554 AU	minimum elong		4230 Jun 07 13:36	18°♂08'56	0°41'53
				max. Earth dist.		4230 Jun 09 16:23	18°♂39'21	5.97219 AU
conjunction	4224 Dec 17 17:29	25°♂53'27	0°36'29	morning rise		4230 Jun 21 05:30	21°♂24'44	
minimum elong	4224 Dec 17 17:30	25°♂53'28	0°36'30			4230 Jul 29 00:38	0°♂	
morning rise	4224 Dec 30 09:55	28°♂40'43		retrograde		4230 Oct 30 06:36	11°♂41'42	
	4225 Jan 05 11:31	0°♂		min. Earth dist.		4230 Dec 27 07:40	6°♂49'24	4.02325 AU
retrograde	4225 May 01 01:39	15°♂52'38		opposition		4230 Dec 28 20:19	6°♂36'54	0°-39'-49
opposition	4225 Jun 30 23:49	11°♂00'36	0°33'16	direct		4231 Feb 24 23:34	1°♂39'48	
min. Earth dist.	4225 Jul 02 13:28	10°♂48'36	4.35011 AU	evening set		4231 Jul 01 09:13	20°♂56'28	
direct	4225 Sep 01 08:08	6°♂00'48						
evening set	4226 Jan 04 22:53	24°♂00'10		conjunction		4231 Jul 15 02:33	24°♂07'30	0°-9'-33
max. Earth dist.	4226 Jan 15 11:31	26°♂22'48	6.28217 AU	minimum elong		4231 Jul 15 02:33	24°♂07'31	0°09'34
				behind sun begin		4231 Jul 14 19:40	24°♂03'32	
conjunction	4226 Jan 17 15:47	26°♂52'25	0°06'49	behind sun end		4231 Jul 15 09:26	24°♂11'29	
minimum elong	4226 Jan 17 15:47	26°♂52'25	0°06'49	max. Earth dist.		4231 Jul 17 10:30	24°♂40'01	6.08912 AU
behind sun begin	4226 Jan 17 08:22	26°♂48'14		morning rise		4231 Jul 28 21:11	27°♂18'53	
behind sun end	4226 Jan 17 23:13	26°♂56'36				4231 Aug 09 15:57	0°♂	
morning rise	4226 Jan 30 07:53	29°♂44'28		asc. node		4231 Oct 30 08:28	14°♂38'28	
	4226 Jan 31 11:29	0°♂				4231 Nov 02 22:30	15°♂	
desc. node	4226 Apr 08 08:29	13°♂14'02		retrograde		4231 Dec 03 19:28	16°♂31'17	
	4226 Apr 21 03:05	15°♂				4232 Jan 03 09:45	15°♂♂	
retrograde	4226 Jun 03 19:30	17°♂50'45		min. Earth dist.		4232 Jan 31 03:15	11°♂38'14	4.16355 AU
	4226 Jul 18 03:19	15°♂		opposition		4232 Feb 01 11:24	11°♂27'20	0°12'15
opposition	4226 Aug 03 13:49	12°♂57'38	0°-14'-38	direct		4232 Mar 31 16:34	6°♂27'25	
min. Earth dist.	4226 Aug 04 23:57	12°♂46'41	4.20661 AU			4232 Jun 18 08:00	15°♂	
direct	4226 Oct 03 21:50	8°♂00'02		evening set		4232 Aug 05 05:14	25°♂02'25	
	4226 Dec 13 09:40	15°♂						
evening set	4227 Feb 06 09:00	26°♂39'17		conjunction		4232 Aug 18 21:11	28°♂06'02	0°24'49
max. Earth dist.	4227 Feb 17 13:04	29°♂15'51	6.13043 AU	minimum elong		4232 Aug 18 21:09	28°♂06'02	0°24'49
				max. Earth dist.		4232 Aug 20 15:31	28°♂29'47	6.24079 AU
conjunction	4227 Feb 19 03:08	29°♂38'09	0°-26'-20			4232 Aug 27 08:36	0°♂	
minimum elong	4227 Feb 19 03:07	29°♂38'09	0°26'20	morning rise		4232 Sep 01 12:27	1°♂09'03	
	4227 Feb 20 16:24	0°♂		retrograde		4233 Jan 03 22:40	19°♂11'54	
morning rise	4227 Mar 03 21:37	2°♂37'34		opposition		4233 Mar 04 21:50	14°♂10'55	0°56'52
retrograde	4227 Jul 09 23:07	21°♂54'17		min. Earth dist.		4233 Mar 04 02:15	14°♂17'27	4.31275 AU
opposition	4227 Sep 08 09:37	16°♂58'39	-1°-1'-6	direct		4233 May 04 09:50	9°♂09'09	
min. Earth dist.	4227 Sep 09 03:35	16°♂52'48	4.05831 AU	evening set		4233 Sep 08 00:23	27°♂05'54	
direct	4227 Nov 07 06:14	12°♂03'29						
	4228 Mar 05 22:24	0°♂		conjunction		4233 Sep 21 10:38	0°♂01'29	0°49'49
evening set	4228 Mar 11 20:36	1°♂24'36		minimum elong		4233 Sep 21 10:36	0°♂01'28	0°49'48
						4233 Sep 21 07:56	0°♂	
conjunction	4228 Mar 24 18:46	4°♂31'00	0°-51'-52	max. Earth dist.		4233 Sep 22 01:02	0°♂09'20	6.37590 AU
minimum elong	4228 Mar 24 18:45	4°♂30'59	0°51'52	morning rise		4233 Oct 04 19:05	2°♂55'57	
max. Earth dist.	4228 Mar 24 07:39	4°♂24'18	5.99872 AU	retrograde		4234 Feb 03 12:57	20°♂06'09	
morning rise	4228 Apr 06 19:04	7°♂38'41		opposition		4234 Apr 04 19:25	15°♂08'49	1°22'23
retrograde	4228 Aug 15 23:15	27°♂58'50		min. Earth dist.		4234 Apr 04 19:13	15°♂08'53	4.42460 AU
opposition	4228 Oct 14 23:55	22°♂59'33	-1°-27'-29	direct		4234 Jun 05 13:51	10°♂06'18	
min. Earth dist.	4228 Oct 14 18:36	23°♂01'19	3.95679 AU	evening set		4234 Oct 09 23:35	27°♂37'56	
direct	4228 Dec 12 13:07	18°♂05'42				4234 Oct 20 23:56	0°♂	
	4229 Mar 14 10:35	0°♂						
evening set	4229 Apr 17 08:49	7°♂53'48		conjunction		4234 Oct 23 03:13	0°♂27'39	0°59'47
				minimum elong		4234 Oct 23 03:13	0°♂27'38	0°59'47
conjunction	4229 Apr 30 14:20	11°♂06'23	0°-58'-28	max. Earth dist.		4234 Oct 22 13:45	0°♂20'23	6.45606 AU
minimum elong	4229 Apr 30 14:21	11°♂06'23	0°58'29	morning rise		4234 Nov 05 04:12	3°♂16'02	
max. Earth dist.	4229 May 01 15:14	11°♂21'31	5.93702 AU			4235 Jan 05 06:40	15°♂	
morning rise	4229 May 13 22:35	14°♂20'32		retrograde		4235 Mar 05 10:25	19°♂59'46	
	4229 May 16 16:10	15°♂		opposition		4235 May 05 01:46	15°♂05'30	1°24'57
	4229 Jul 27 01:02	0°♂				4235 May 05 18:50	15°♂	
retrograde	4229 Sep 23 09:37	5°♂05'49		min. Earth dist.		4235 May 05 19:08	14°♂59'54	4.46942 AU
min. Earth dist.	4229 Nov 20 23:01	0°♂11'38	3.94321 AU	direct		4235 Jul 06 14:29	10°♂03'14	
opposition	4229 Nov 22 00:43	0°♂02'56	-1°-19'-24			4235 Sep 05 05:04	15°♂	
	4229 Nov 22 09:24	30°♂		evening set		4235 Nov 09 18:31	27°♂27'15	
direct	4230 Jan 18 22:39	25°♂08'22		max. Earth dist.		4235 Nov 21 03:48	29°♂54'40	6.46190 AU

	4235 Nov 21 13:39	0°♏		max. Earth dist.	4241 May 06 23:17	16°♏39'00	5.93515 AU
				morning rise	4241 May 19 05:02	19°♏36'54	
conjunction	4235 Nov 22 16:23	0°♏14'28	0°53'32		4241 Jul 03 21:18	0°♐	
minimum elong	4235 Nov 22 16:24	0°♏14'29	0°53'31	retrograde	4241 Sep 28 14:22	10°♐21'56	
morning rise	4235 Dec 05 11:38	3°♏00'33		min. Earth dist.	4241 Nov 26 01:01	5°♐28'23	3.94766 AU
retrograde	4236 Apr 03 20:14	19°♏46'46		opposition	4241 Nov 27 05:39	5°♐18'41	-1°-15'-25
opposition	4236 Jun 03 16:39	14°♏54'21	1°05'12	direct	4242 Jan 24 01:52	0°♐23'51	
min. Earth dist.	4236 Jun 05 00:41	14°♏44'08	4.43651 AU	evening set	4242 May 30 06:17	20°♐07'57	
direct	4236 Aug 05 10:51	9°♏53'06					
evening set	4236 Dec 09 05:57	27°♏28'10		conjunction	4242 Jun 12 20:21	23°♐22'27	0°-37'-59
max. Earth dist.	4236 Dec 19 20:48	29°♏48'18	6.39205 AU	minimum elong	4242 Jun 12 20:23	23°♐22'29	0°38'01
	4236 Dec 20 17:59	0°♑		max. Earth dist.	4242 Jun 15 00:45	23°♐53'46	5.98247 AU
				morning rise	4242 Jun 26 12:59	26°♐38'07	
conjunction	4236 Dec 22 00:06	0°♑16'37	0°32'48		4242 Jul 10 22:13	0°♑	
minimum elong	4236 Dec 22 00:07	0°♑16'37	0°32'49	retrograde	4242 Nov 04 06:33	16°♑48'35	
morning rise	4237 Jan 03 16:29	3°♑04'21		min. Earth dist.	4243 Jan 01 07:43	11°♑56'01	4.03797 AU
retrograde	4237 May 05 15:55	20°♑22'04		opposition	4243 Jan 02 19:40	11°♑43'46	0°-32'-44
opposition	4237 Jul 05 13:40	15°♑29'54	0°26'59	direct	4243 Mar 02 02:19	6°♑46'16	
min. Earth dist.	4237 Jul 07 03:24	15°♑17'52	4.33339 AU	evening set	4243 Jul 06 12:09	25°♑58'27	
direct	4237 Sep 05 19:49	10°♑30'18					
evening set	4238 Jan 09 09:00	28°♑34'04		conjunction	4243 Jul 20 05:47	29°♑08'48	0°-4'-33
	4238 Jan 15 16:53	0°♒		minimum elong	4243 Jul 20 05:47	29°♑08'48	0°04'35
max. Earth dist.	4238 Jan 19 23:54	0°♒58'33	6.26342 AU	behind sun begin	4243 Jul 19 21:34	29°♑04'04	
				behind sun end	4243 Jul 20 13:59	29°♑13'31	
conjunction	4238 Jan 22 02:03	1°♒27'04	0°02'09	max. Earth dist.	4243 Jul 22 14:20	29°♑41'29	6.10707 AU
minimum elong	4238 Jan 22 02:02	1°♒27'04	0°02'09		4243 Jul 23 22:22	0°♓	
behind sun begin	4238 Jan 21 18:03	1°♒22'33		morning rise	4243 Aug 03 00:16	2°♓19'17	
behind sun end	4238 Jan 22 10:00	1°♒31'34		asc. node	4243 Sep 08 21:33	10°♓24'32	
morning rise	4238 Feb 03 18:07	4°♒19'54			4243 Oct 03 02:15	15°♓	
desc. node	4238 Feb 16 01:15	7°♒05'19		retrograde	4243 Dec 08 11:27	21°♓22'35	
	4238 Mar 26 14:36	15°♒		min. Earth dist.	4244 Feb 04 20:07	16°♓29'44	4.18306 AU
retrograde	4238 Jun 08 16:10	22°♒34'41		opposition	4244 Feb 06 03:49	16°♓19'01	0°19'22
opposition	4238 Aug 08 10:13	17°♒41'19	0°-21'-36		4244 Feb 16 00:31	15°♓♓	
min. Earth dist.	4238 Aug 09 18:39	17°♒30'54	4.18696 AU	direct	4244 Apr 05 12:01	11°♓18'53	
	4238 Aug 30 12:55	15°♓♓			4244 May 24 23:39	15°♓	
direct	4238 Oct 08 13:27	12°♒44'05		evening set	4244 Aug 10 02:30	29°♓48'45	
	4238 Nov 16 02:00	15°♒			4244 Aug 10 22:44	0°♔	
	4239 Feb 04 16:05	0°♔					
evening set	4239 Feb 11 00:59	1°♔28'45		conjunction	4244 Aug 23 17:42	2°♔51'15	0°29'06
max. Earth dist.	4239 Feb 22 07:15	4°♔07'19	6.11134 AU	minimum elong	4244 Aug 23 17:41	2°♔51'15	0°29'06
				max. Earth dist.	4244 Aug 25 07:57	3°♔12'37	6.26042 AU
conjunction	4239 Feb 23 19:18	4°♔28'32	0°-30'-37	morning rise	4244 Sep 06 08:19	5°♔53'07	
minimum elong	4239 Feb 23 19:16	4°♔28'32	0°30'39	retrograde	4245 Jan 08 09:09	23°♔47'44	
morning rise	4239 Mar 08 14:29	7°♔29'02		opposition	4245 Mar 09 08:31	18°♔47'16	1°01'47
retrograde	4239 Jul 15 03:21	26°♔55'08		min. Earth dist.	4245 Mar 08 15:43	18°♔52'52	4.33124 AU
opposition	4239 Sep 13 12:30	21°♔59'00	-1°-6'-23	direct	4245 May 09 01:40	13°♔45'22	
min. Earth dist.	4239 Sep 14 03:36	21°♔54'05	4.04137 AU		4245 Sep 05 01:30	0°♕	
direct	4239 Nov 12 04:38	17°♔04'04		evening set	4245 Sep 12 15:01	1°♕37'35	
	4240 Feb 17 20:39	0°♖					
evening set	4240 Mar 16 19:07	6°♖29'58		conjunction	4245 Sep 26 00:29	4°♕32'09	0°52'11
				minimum elong	4245 Sep 26 00:27	4°♕32'08	0°52'11
conjunction	4240 Mar 29 18:19	9°♖37'22	0°-54'-6	max. Earth dist.	4245 Sep 26 13:04	4°♕39'00	6.39218 AU
minimum elong	4240 Mar 29 18:17	9°♖37'21	0°54'07	morning rise	4245 Oct 09 07:42	7°♕25'30	
max. Earth dist.	4240 Mar 29 12:50	9°♖34'04	5.98557 AU	retrograde	4246 Feb 07 17:19	24°♕29'45	
morning rise	4240 Apr 11 19:27	12°♖46'05		opposition	4246 Apr 09 02:03	19°♕32'53	1°24'08
	4240 Jul 06 13:36	0°♗		min. Earth dist.	4246 Apr 09 03:01	19°♕32'34	4.43793 AU
retrograde	4240 Aug 21 08:19	3°♗12'34		direct	4246 Jun 09 22:56	14°♕30'24	
	4240 Oct 06 12:59	30°♗♖			4246 Oct 05 00:25	0°♗	
opposition	4240 Oct 20 06:32	28°♖12'48	-1°-28'-32	evening set	4246 Oct 14 08:36	1°♗58'47	
min. Earth dist.	4240 Oct 19 22:51	28°♖15'22	3.94902 AU				
direct	4240 Dec 17 16:40	23°♖19'02		conjunction	4246 Oct 27 11:10	4°♗47'43	0°59'52
	4241 Feb 21 17:17	0°♘		minimum elong	4246 Oct 27 11:10	4°♗47'43	0°59'52
evening set	4241 Apr 22 12:56	13°♘08'54		max. Earth dist.	4246 Oct 26 18:08	4°♗38'33	6.46556 AU
	4241 Apr 30 04:18	15°♘		morning rise	4246 Nov 09 11:13	7°♗35'23	
					4246 Dec 15 17:33	15°♗	
conjunction	4241 May 05 19:26	16°♘22'05	0°-57'-28	retrograde	4247 Mar 09 15:28	24°♗16'14	
minimum elong	4241 May 05 19:27	16°♘22'06	0°57'29	opposition	4247 May 09 07:16	19°♗22'19	1°23'26

min. Earth dist.	4247 May 10 03:27	19° \mathbb{M} 15'49	4.47451 AU		4253 Jan 21 20:21	0° \mathcal{B}	
	4247 Jun 19 19:50	15° $\mathbb{R}\mathbb{M}$			4253 Apr 13 14:36	15° \mathcal{B}	
direct	4247 Jul 10 23:07	14° \mathbb{M} 20'07		evening set	4253 Apr 27 16:48	18° \mathcal{B} 22'11	
	4247 Aug 01 04:35	15° \mathbb{M}					
	4247 Nov 05 22:56	0° \mathcal{A}		conjunction	4253 May 11 00:39	21° \mathcal{B} 36'16	0°-56'-2
evening set	4247 Nov 13 23:31	1° \mathcal{A} 42'42		minimum elong	4253 May 11 00:40	21° \mathcal{B} 36'17	0°56'02
max. Earth dist.	4247 Nov 25 05:04	4° \mathcal{A} 08'11	6.46208 AU	max. Earth dist.	4253 May 12 08:59	21° \mathcal{B} 55'56	5.92928 AU
				morning rise	4253 May 24 11:26	24° \mathcal{B} 51'55	
conjunction	4247 Nov 26 20:40	4° \mathcal{A} 29'37	0°51'27		4253 Jun 15 04:45	0° \mathbb{I}	
minimum elong	4247 Nov 26 20:41	4° \mathcal{A} 29'38	0°51'27	retrograde	4253 Oct 03 20:58	15° \mathbb{I} 38'05	
morning rise	4247 Dec 09 15:19	7° \mathcal{A} 15'27		min. Earth dist.	4253 Dec 01 04:36	10° \mathbb{I} 44'36	3.94856 AU
retrograde	4248 Apr 08 01:23	24° \mathcal{A} 02'29		opposition	4253 Dec 02 10:31	10° \mathbb{I} 34'26	-1°-10'-54
opposition	4248 Jun 07 23:16	19° \mathcal{A} 10'07	1°00'53	direct	4254 Jan 29 06:50	5° \mathbb{I} 39'18	
min. Earth dist.	4248 Jun 09 08:10	18° \mathcal{A} 59'38	4.43166 AU	evening set	4254 Jun 04 13:05	25° \mathbb{I} 22'47	
direct	4248 Aug 09 16:36	14° \mathcal{A} 08'58					
	4248 Dec 05 09:05	0° \mathcal{B}		conjunction	4254 Jun 18 04:12	28° \mathbb{I} 37'24	0°-33'-48
evening set	4248 Dec 13 10:09	1° \mathcal{B} 45'05		minimum elong	4254 Jun 18 04:14	28° \mathbb{I} 37'25	0°33'49
max. Earth dist.	4248 Dec 24 00:53	4° \mathcal{B} 05'27	6.38249 AU	max. Earth dist.	4254 Jun 20 12:15	29° \mathbb{I} 10'47	5.99014 AU
					4254 Jun 23 22:56	0° \mathcal{B}	
conjunction	4248 Dec 26 04:00	4° \mathcal{B} 33'44	0°29'05	morning rise	4254 Jul 01 21:34	1° \mathcal{B} 53'01	
minimum elong	4248 Dec 26 04:01	4° \mathcal{B} 33'45	0°29'05	retrograde	4254 Nov 09 07:36	21° \mathcal{B} 57'28	
morning rise	4249 Jan 07 19:58	7° \mathcal{B} 21'43		min. Earth dist.	4255 Jan 06 06:46	17° \mathcal{B} 05'15	4.05142 AU
retrograde	4249 May 10 02:09	24° \mathcal{B} 44'05		opposition	4255 Jan 07 19:53	16° \mathcal{B} 52'37	0°-25'-25
opposition	4249 Jul 10 00:06	19° \mathcal{B} 51'51	0°20'47	direct	4255 Mar 07 04:16	11° \mathcal{B} 54'44	
min. Earth dist.	4249 Jul 11 14:42	19° \mathcal{B} 39'33	4.31937 AU		4255 Jul 07 02:56	0° \mathcal{Q}	
direct	4249 Sep 10 04:13	14° \mathcal{B} 52'27		evening set	4255 Jul 11 16:42	1° \mathcal{Q} 02'40	
desc. node	4249 Dec 29 00:10	29° \mathcal{B} 30'33		asc. node	4255 Jul 18 22:33	2° \mathcal{Q} 42'32	
	4249 Dec 31 05:53	0° \mathcal{A}					
evening set	4250 Jan 13 15:51	2° \mathcal{A} 59'56		conjunction	4255 Jul 25 10:14	4° \mathcal{Q} 12'11	0°00'36
max. Earth dist.	4250 Jan 24 05:28	5° \mathcal{A} 24'17	6.24588 AU	minimum elong	4255 Jul 25 10:13	4° \mathcal{Q} 12'10	0°00'35
				behind sun begin	4255 Jul 25 01:51	4° \mathcal{Q} 07'23	
conjunction	4250 Jan 26 08:43	5° \mathcal{A} 53'34	0°-2'-26	behind sun end	4255 Jul 25 18:36	4° \mathcal{Q} 16'58	
minimum elong	4250 Jan 26 08:42	5° \mathcal{A} 53'34	0°02'26	max. Earth dist.	4255 Jul 27 16:57	4° \mathcal{Q} 43'41	6.12489 AU
behind sun begin	4250 Jan 26 00:44	5° \mathcal{A} 49'02		morning rise	4255 Aug 08 04:41	7° \mathcal{Q} 21'46	
behind sun end	4250 Jan 26 16:41	5° \mathcal{A} 58'06			4255 Sep 12 01:28	15° \mathcal{Q}	
morning rise	4250 Feb 08 01:09	8° \mathcal{A} 47'14		retrograde	4255 Dec 13 03:42	26° \mathcal{Q} 15'40	
	4250 Mar 08 04:58	15° \mathcal{A}		opposition	4256 Feb 10 21:06	21° \mathcal{Q} 12'19	0°26'22
retrograde	4250 Jun 13 09:51	27° \mathcal{A} 10'24		min. Earth dist.	4256 Feb 09 14:44	21° \mathcal{Q} 22'35	4.20319 AU
opposition	4250 Aug 13 03:00	22° \mathcal{A} 16'41	0°-28'-12	direct	4256 Apr 10 10:05	16° \mathcal{Q} 11'46	
min. Earth dist.	4250 Aug 14 10:15	22° \mathcal{A} 06'36	4.16686 AU		4256 Jul 24 20:02	0° \mathcal{M}	
direct	4250 Oct 13 01:47	17° \mathcal{A} 19'37		evening set	4256 Aug 15 00:36	4° \mathcal{M} 36'01	
	4251 Jan 19 10:17	0° \mathcal{H}					
evening set	4251 Feb 15 13:26	6° \mathcal{H} 10'09		conjunction	4256 Aug 28 15:18	7° \mathcal{M} 37'22	0°33'12
max. Earth dist.	4251 Feb 26 23:46	8° \mathcal{H} 51'46	6.09049 AU	minimum elong	4256 Aug 28 15:16	7° \mathcal{M} 37'21	0°33'12
				max. Earth dist.	4256 Aug 30 04:14	7° \mathcal{M} 57'55	6.28115 AU
conjunction	4251 Feb 28 08:24	9° \mathcal{H} 11'03	0°-34'-34	morning rise	4256 Sep 11 04:49	10° \mathcal{M} 37'53	
minimum elong	4251 Feb 28 08:22	9° \mathcal{H} 11'02	0°34'35	retrograde	4257 Jan 12 18:47	28° \mathcal{M} 23'40	
morning rise	4251 Mar 13 04:04	12° \mathcal{H} 12'41		opposition	4257 Mar 13 19:32	23° \mathcal{M} 23'39	1°06'19
	4251 Jun 15 23:17	0° \mathcal{Y}		min. Earth dist.	4257 Mar 13 04:18	23° \mathcal{M} 28'43	4.35053 AU
retrograde	4251 Jul 20 05:30	1° \mathcal{Y} 48'58		direct	4257 May 13 16:35	18° \mathcal{M} 21'36	
	4251 Aug 23 13:25	30° $\mathbb{R}\mathcal{H}$			4257 Aug 18 19:30	0° \mathcal{A}	
opposition	4251 Sep 18 12:25	26° \mathcal{H} 52'26	-1°-11'-4	evening set	4257 Sep 17 05:58	6° \mathcal{A} 08'57	
min. Earth dist.	4251 Sep 19 02:00	26° \mathcal{H} 48'00	4.02158 AU				
direct	4251 Nov 16 23:56	21° \mathcal{H} 57'43		conjunction	4257 Sep 30 14:16	9° \mathcal{A} 02'27	0°54'15
	4252 Jan 30 00:30	0° \mathcal{Y}		minimum elong	4257 Sep 30 14:15	9° \mathcal{A} 02'26	0°54'16
evening set	4252 Mar 21 15:49	11° \mathcal{Y} 29'46		max. Earth dist.	4257 Sep 30 21:30	9° \mathcal{A} 06'22	6.40817 AU
				morning rise	4257 Oct 13 20:33	11° \mathcal{A} 54'44	
conjunction	4252 Apr 03 15:49	14° \mathcal{Y} 38'21	0°-55'-53	retrograde	4258 Feb 12 00:16	28° \mathcal{A} 53'23	
minimum elong	4252 Apr 03 15:48	14° \mathcal{Y} 38'20	0°55'54	opposition	4258 Apr 13 09:30	23° \mathcal{A} 56'57	1°25'24
max. Earth dist.	4252 Apr 03 12:41	14° \mathcal{Y} 36'27	5.96863 AU	min. Earth dist.	4258 Apr 13 13:55	23° \mathcal{A} 55'31	4.44947 AU
morning rise	4252 Apr 16 18:16	17° \mathcal{Y} 48'23		direct	4258 Jun 14 10:34	18° \mathcal{A} 54'25	
	4252 Jun 10 14:50	0° \mathcal{B}			4258 Sep 17 23:33	0° \mathbb{M}	
retrograde	4252 Aug 26 14:07	8° \mathcal{B} 22'37		evening set	4258 Oct 18 17:51	6° \mathbb{M} 20'15	
opposition	4252 Oct 25 11:05	3° \mathcal{B} 22'21	-1°-28'-56				
min. Earth dist.	4252 Oct 24 23:40	3° \mathcal{B} 26'10	3.93695 AU	conjunction	4258 Oct 31 19:40	9° \mathbb{M} 08'37	0°59'36
	4252 Nov 22 09:37	30° $\mathbb{R}\mathcal{Y}$		minimum elong	4258 Oct 31 19:40	9° \mathbb{M} 08'37	0°59'36
direct	4252 Dec 22 16:50	28° \mathcal{Y} 28'32		max. Earth dist.	4258 Oct 30 23:52	8° \mathbb{M} 57'58	6.47160 AU

morning rise	4258 Nov 13 18:39	11°♄55'40		opposition	4264 Oct 30 22:01	8°♄48'30	-1°-28'-34
	4258 Nov 28 07:54	15°♄		min. Earth dist.	4264 Oct 30 07:58	8°♄53'13	3.93141 AU
retrograde	4259 Mar 13 20:11	28°♄35'06		direct	4264 Dec 28 01:39	3°♄54'40	
opposition	4259 May 13 14:01	23°♄41'29	1°21'27		4265 Mar 25 22:21	15°♄	
min. Earth dist.	4259 May 14 11:37	23°♄34'32	4.47480 AU	evening set	4265 May 03 01:58	23°♄49'08	
direct	4259 Jul 15 05:51	18°♄39'25					
	4259 Oct 20 05:03	0°♄		conjunction	4265 May 16 11:00	27°♄03'39	0°-54'-5
evening set	4259 Nov 18 06:30	6°♄02'21		minimum elong	4265 May 16 11:02	27°♄03'40	0°54'06
max. Earth dist.	4259 Nov 29 08:47	8°♄26'21	6.45648 AU	max. Earth dist.	4265 May 18 00:53	27°♄26'39	5.93178 AU
					4265 May 28 14:15	0°♄	
conjunction	4259 Dec 01 02:56	8°♄49'15	0°49'01	morning rise	4265 May 29 22:57	0°♄19'42	
minimum elong	4259 Dec 01 02:58	8°♄49'15	0°49'02	retrograde	4265 Oct 09 05:08	21°♄02'43	
morning rise	4259 Dec 13 21:03	11°♄35'05		min. Earth dist.	4265 Dec 06 09:34	16°♄09'48	3.95914 AU
retrograde	4260 Apr 12 11:55	28°♄25'02		opposition	4265 Dec 07 18:07	15°♄58'45	-1°-5'-38
opposition	4260 Jun 12 09:04	23°♄32'52	0°56'06	direct	4266 Feb 03 14:14	11°♄03'19	
min. Earth dist.	4260 Jun 13 20:25	23°♄21'35	4.42036 AU		4266 Jun 06 22:02	0°♄	
direct	4260 Aug 14 02:25	18°♄31'55		evening set	4266 Jun 09 21:57	0°♄42'21	
	4260 Nov 18 14:51	0°♄					
evening set	4260 Dec 17 18:01	6°♄11'21		conjunction	4266 Jun 23 13:33	3°♄56'24	0°-29'-19
max. Earth dist.	4260 Dec 28 06:15	8°♄30'55	6.36620 AU	minimum elong	4266 Jun 23 13:34	3°♄56'25	0°29'20
				max. Earth dist.	4266 Jun 25 22:01	4°♄29'53	6.00754 AU
conjunction	4260 Dec 30 11:34	9°♄00'32	0°25'01	morning rise	4266 Jul 07 07:32	7°♄11'24	
minimum elong	4260 Dec 30 11:35	9°♄00'32	0°25'01	retrograde	4266 Nov 14 05:26	27°♄05'52	
morning rise	4261 Jan 12 03:31	11°♄49'08		min. Earth dist.	4267 Jan 11 06:09	22°♄13'39	4.07351 AU
retrograde	4261 May 14 18:15	29°♄18'47		opposition	4267 Jan 12 19:17	22°♄01'00	0°-17'-57
opposition	4261 Jul 14 16:00	24°♄26'24	0°14'07	direct	4267 Mar 12 07:35	17°♄02'37	
min. Earth dist.	4261 Jul 16 05:56	24°♄14'17	4.29903 AU	asc. node	4267 May 28 09:17	25°♄29'43	
direct	4261 Sep 14 15:49	19°♄27'17			4267 Jun 19 13:05	0°♄	
desc. node	4261 Nov 07 06:47	23°♄34'24		evening set	4267 Jul 16 19:26	6°♄03'21	
	4261 Dec 13 19:53	0°♄					
evening set	4262 Jan 18 04:12	7°♄40'40		conjunction	4267 Jul 30 12:57	9°♄11'41	0°05'38
max. Earth dist.	4262 Jan 28 20:33	10°♄07'17	6.22315 AU	minimum elong	4267 Jul 30 12:57	9°♄11'40	0°05'38
				behind sun begin	4267 Jul 30 04:55	9°♄07'06	
conjunction	4262 Jan 30 21:17	10°♄35'16	0°-7'-11	behind sun end	4267 Jul 30 20:58	9°♄16'14	
minimum elong	4262 Jan 30 21:17	10°♄35'16	0°07'11	max. Earth dist.	4267 Aug 01 19:10	9°♄42'43	6.14976 AU
behind sun begin	4262 Jan 30 13:56	10°♄31'04		morning rise	4267 Aug 13 06:47	12°♄19'52	
behind sun end	4262 Jan 31 04:38	10°♄39'29			4267 Aug 25 04:01	15°♄	
morning rise	4262 Feb 12 13:52	13°♄29'58			4267 Nov 22 06:50	0°♄	
	4262 Feb 19 04:16	15°♄		retrograde	4267 Dec 17 17:38	1°♄02'17	
	4262 May 12 15:50	0°♄			4268 Jan 11 21:50	30°♄	
retrograde	4262 Jun 18 12:00	2°♄03'36		min. Earth dist.	4268 Feb 14 07:19	26°♄08'54	4.22826 AU
	4262 Jul 25 13:19	30°♄		opposition	4268 Feb 15 11:46	25°♄59'19	0°32'58
opposition	4262 Aug 18 03:00	27°♄09'38	0°-35'-4	direct	4268 Apr 15 05:31	20°♄58'29	
min. Earth dist.	4262 Aug 19 09:19	26°♄59'51	4.14339 AU		4268 Jul 06 06:43	0°♄	
direct	4262 Oct 17 21:20	22°♄12'58		evening set	4268 Aug 19 19:10	9°♄15'41	
	4262 Dec 30 23:02	0°♄					
evening set	4263 Feb 20 09:25	11°♄10'31		conjunction	4268 Sep 02 08:55	12°♄15'41	0°36'59
max. Earth dist.	4263 Mar 03 22:13	13°♄54'26	6.06832 AU	minimum elong	4268 Sep 02 08:53	12°♄15'40	0°36'58
				max. Earth dist.	4268 Sep 03 17:00	12°♄33'26	6.30419 AU
conjunction	4263 Mar 05 04:47	14°♄12'36	0°-38'-32	morning rise	4268 Sep 15 21:35	15°♄14'49	
minimum elong	4263 Mar 05 04:46	14°♄12'35	0°38'32		4268 Dec 04 14:15	0°♄	
morning rise	4263 Mar 18 01:25	17°♄15'35		retrograde	4269 Jan 17 00:39	2°♄51'43	
	4263 May 16 06:32	0°♄			4269 Mar 01 12:18	30°♄	
retrograde	4263 Jul 25 13:33	7°♄02'26		opposition	4269 Mar 18 03:30	27°♄52'09	1°10'17
opposition	4263 Sep 23 19:45	2°♄05'26	-1°-15'-33	min. Earth dist.	4269 Mar 17 15:12	27°♄56'14	4.36994 AU
min. Earth dist.	4263 Sep 24 05:09	2°♄02'21	4.00307 AU	direct	4269 May 18 05:13	22°♄49'54	
	4263 Oct 10 06:38	30°♄			4269 Jul 30 15:22	0°♄	
direct	4263 Nov 22 01:36	27°♄10'58		evening set	4269 Sep 21 17:12	10°♄32'35	
	4264 Jan 03 00:35	0°♄					
evening set	4264 Mar 26 19:48	16°♄48'32		conjunction	4269 Oct 05 00:41	13°♄25'07	0°55'57
				minimum elong	4269 Oct 05 00:39	13°♄25'06	0°55'57
conjunction	4264 Apr 08 20:54	19°♄58'12	0°-57'-21	max. Earth dist.	4269 Oct 05 04:36	13°♄27'14	6.42253 AU
minimum elong	4264 Apr 08 20:53	19°♄58'12	0°57'22	morning rise	4269 Oct 18 05:42	16°♄16'22	
max. Earth dist.	4264 Apr 08 23:58	20°♄00'04	5.95572 AU		4269 Dec 31 21:54	0°♄	
morning rise	4264 Apr 22 00:24	23°♄09'21		retrograde	4270 Feb 16 03:09	3°♄10'19	
	4264 May 21 06:14	0°♄			4270 Apr 03 17:47	30°♄	
retrograde	4264 Sep 01 03:24	13°♄49'19		opposition	4270 Apr 17 14:12	28°♄14'21	1°26'11

min. Earth dist.	4270 Apr 17 21:07	28°♄12'06	4.45799 AU	retrograde	4275 Jul 31 01:57	12°♃20'13	
direct	4270 Jun 18 17:44	23°♄11'50		opposition	4275 Sep 29 05:24	7°♃22'43	-1°-19'-25
	4270 Aug 29 21:55	0°♄		min. Earth dist.	4275 Sep 29 11:54	7°♃20'34	3.98809 AU
evening set	4270 Oct 23 00:42	10°♄36'07		direct	4275 Nov 27 07:48	2°♃28'30	
max. Earth dist.	4270 Nov 04 00:19	13°♄10'29	6.47356 AU	evening set	4276 Apr 01 01:24	22°♃09'50	
conjunction	4270 Nov 05 01:32	13°♄24'03	0°59'02	conjunction	4276 Apr 14 03:31	25°♃20'21	0°-58'-20
minimum elong	4270 Nov 05 01:32	13°♄24'04	0°59'02	minimum elong	4276 Apr 14 03:30	25°♃20'21	0°58'20
	4270 Nov 12 11:52	15°♄		max. Earth dist.	4276 Apr 14 12:12	25°♃25'38	5.94758 AU
morning rise	4270 Nov 17 23:53	16°♄10'46		morning rise	4276 Apr 27 08:10	28°♃32'24	
	4271 Feb 02 07:19	0°♄			4276 May 03 09:56	0°♄	
retrograde	4271 Mar 18 02:30	2°♄50'14			4276 Jul 15 14:38	15°♄	
	4271 May 01 06:49	30°♄		retrograde	4276 Sep 06 14:27	19°♄15'23	
opposition	4271 May 17 19:46	27°♄56'55	1°19'07		4276 Oct 30 15:16	15°♄	
min. Earth dist.	4271 May 18 20:50	27°♄48'52	4.47018 AU	opposition	4276 Nov 05 08:34	14°♄14'05	-1°-27'-23
direct	4271 Jul 19 13:30	22°♄54'54		min. Earth dist.	4276 Nov 04 14:40	14°♄20'05	3.93133 AU
	4271 Oct 01 10:18	0°♄		direct	4277 Jan 02 08:59	9°♄20'11	
evening set	4271 Nov 22 12:05	10°♄19'38			4277 Mar 03 12:55	15°♄	
max. Earth dist.	4271 Dec 03 11:52	12°♄42'39	6.44557 AU	evening set	4277 May 08 10:57	29°♄13'26	
					4277 May 11 16:12	0°♄	
conjunction	4271 Dec 05 08:10	13°♄06'46	0°46'22	conjunction	4277 May 21 20:54	2°♄28'04	0°-51'-40
minimum elong	4271 Dec 05 08:12	13°♄06'47	0°46'22	minimum elong	4277 May 21 20:55	2°♄28'05	0°51'42
morning rise	4271 Dec 18 01:47	15°♄52'53		max. Earth dist.	4277 May 23 13:34	2°♄52'42	5.93938 AU
	4272 Mar 04 10:32	0°♄		morning rise	4277 Jun 04 09:57	5°♄44'14	
retrograde	4272 Apr 16 21:08	2°♄47'35		retrograde	4277 Oct 14 09:55	26°♄21'59	
	4272 May 30 22:42	30°♄		opposition	4277 Dec 12 23:26	21°♄17'43	0°-59'-52
opposition	4272 Jun 16 19:15	27°♄55'27	0°51'04	min. Earth dist.	4277 Dec 11 13:14	21°♄29'21	3.97339 AU
min. Earth dist.	4272 Jun 18 06:52	27°♄44'05	4.40388 AU	direct	4278 Feb 08 21:25	16°♄21'53	
direct	4272 Aug 18 09:39	22°♄54'44			4278 May 20 08:49	0°♄	
	4272 Oct 30 13:52	0°♄		evening set	4278 Jun 15 04:30	5°♄55'34	
evening set	4272 Dec 22 02:32	10°♄39'03					
max. Earth dist.	4273 Jan 01 14:45	12°♄59'17	6.34544 AU	conjunction	4278 Jun 28 20:49	9°♄09'00	0°-24'-39
conjunction	4273 Jan 03 19:53	13°♄28'57	0°20'49	minimum elong	4278 Jun 28 20:50	9°♄09'01	0°24'41
minimum elong	4273 Jan 03 19:54	13°♄28'58	0°20'49	max. Earth dist.	4278 Jul 01 07:05	9°♄43'24	6.02709 AU
morning rise	4273 Jan 16 11:47	16°♄18'23		morning rise	4278 Jul 12 14:57	12°♄23'09	
	4273 Mar 28 11:43	0°♄			4278 Oct 13 11:10	0°♄	
retrograde	4273 May 19 13:53	3°♄56'49		retrograde	4278 Nov 19 02:40	2°♄07'24	
	4273 Jul 12 02:28	30°♄			4278 Dec 25 11:01	30°♄	
opposition	4273 Jul 19 09:49	29°♄04'22	0°07'17	min. Earth dist.	4279 Jan 16 04:14	27°♄14'57	4.09605 AU
min. Earth dist.	4273 Jul 21 00:12	28°♄52'06	4.27519 AU	opposition	4279 Jan 17 16:14	27°♄02'43	0°-10'-29
desc. node	4273 Sep 16 15:10	24°♄06'16		direct	4279 Mar 17 08:21	22°♄04'01	
direct	4273 Sep 19 06:39	24°♄05'37		asc. node	4279 Apr 06 23:57	22°♄46'22	
	4273 Nov 23 03:51	0°♄			4279 May 30 22:12	0°♄	
evening set	4274 Jan 22 18:44	12°♄25'55		evening set	4279 Jul 21 19:56	10°♄57'56	
	4274 Feb 02 22:31	15°♄					
max. Earth dist.	4274 Feb 02 12:06	14°♄53'59	6.19830 AU	conjunction	4279 Aug 04 13:03	14°♄05'04	0°10'30
conjunction	4274 Feb 04 11:59	15°♄21'38	0°-11'-55	minimum elong	4279 Aug 04 13:02	14°♄05'03	0°10'30
minimum elong	4274 Feb 04 11:59	15°♄21'38	0°11'56	behind sun begin	4279 Aug 04 06:36	14°♄01'24	
behind sun begin	4274 Feb 04 06:22	15°♄18'24		behind sun end	4279 Aug 04 19:29	14°♄08'42	
behind sun end	4274 Feb 04 17:35	15°♄24'51		max. Earth dist.	4279 Aug 06 16:25	14°♄34'18	6.17323 AU
morning rise	4274 Feb 17 05:05	18°♄17'34			4279 Aug 08 13:36	15°♄	
	4274 Apr 13 19:28	0°♄		morning rise	4279 Aug 18 06:30	17°♄12'00	
retrograde	4274 Jun 23 14:36	7°♄02'21		retrograde	4279 Oct 20 09:12	0°♄	
opposition	4274 Aug 23 05:36	2°♄08'01	0°-41'-48	min. Earth dist.	4279 Dec 22 03:52	5°♄44'03	
min. Earth dist.	4274 Aug 24 08:18	1°♄59'22	4.11963 AU	opposition	4280 Feb 18 21:29	0°♄50'35	4.25070 AU
	4274 Sep 09 07:05	30°♄			4280 Feb 20 00:23	0°♄41'31	0°39'17
direct	4274 Oct 22 17:44	27°♄11'45		direct	4280 Feb 25 04:20	30°♄	
	4274 Dec 04 09:17	0°♄			4280 Apr 19 22:10	25°♄40'27	
evening set	4275 Feb 25 07:45	16°♄16'12		evening set	4280 Jun 13 10:58	0°♄	
max. Earth dist.	4275 Mar 09 02:48	19°♄04'32	6.04790 AU		4280 Aug 24 12:18	13°♄52'00	
conjunction	4275 Mar 10 03:48	19°♄19'27	0°-42'-15	conjunction	4280 Sep 07 01:19	16°♄50'50	0°40'30
minimum elong	4275 Mar 10 03:46	19°♄19'26	0°42'15	minimum elong	4280 Sep 07 01:17	16°♄50'49	0°40'30
morning rise	4275 Mar 23 01:08	22°♄23'40		max. Earth dist.	4280 Sep 08 05:28	17°♄06'22	6.32400 AU
	4275 Apr 25 07:33	0°♄		morning rise	4280 Sep 20 12:53	19°♄48'43	
					4280 Nov 09 18:07	0°♄	

retrograde	4281 Jan 21 07:23	7°♄18'11			4286 Mar 24 14:30	0°♄	
opposition	4281 Mar 22 10:50	2°♄19'12	1°13'52	retrograde	4286 Jun 28 19:50	12°♄03'03	
min. Earth dist.	4281 Mar 22 01:41	2°♄22'14	4.38576 AU	opposition	4286 Aug 28 08:44	7°♄08'19	0°-48'-16
	4281 Apr 09 17:52	30°♄		min. Earth dist.	4286 Aug 29 09:25	7°♄00'19	4.10072 AU
direct	4281 May 22 17:06	27°♄16'55		direct	4286 Oct 27 17:29	2°♄12'24	
	4281 Jul 05 01:23	0°♄		evening set	4287 Mar 02 05:54	21°♄21'45	
evening set	4281 Sep 26 04:10	14°♄56'13		max. Earth dist.	4287 Mar 14 06:03	24°♄13'39	6.03289 AU
conjunction	4281 Oct 09 10:38	17°♄47'57	0°57'21	conjunction	4287 Mar 15 02:34	24°♄25'55	0°-45'-37
minimum elong	4281 Oct 09 10:37	17°♄47'56	0°57'21	minimum elong	4287 Mar 15 02:33	24°♄25'54	0°45'39
max. Earth dist.	4281 Oct 09 09:07	17°♄47'08	6.43308 AU	morning rise	4287 Mar 28 00:43	27°♄31'09	
morning rise	4281 Oct 22 14:48	20°♄38'26			4287 Apr 07 13:01	0°♄	
	4281 Dec 08 07:09	0°♄		retrograde	4287 Aug 05 10:03	17°♄34'48	
retrograde	4282 Feb 20 07:52	7°♄29'07		opposition	4287 Oct 04 12:56	12°♄36'45	-1°-22'-35
opposition	4282 Apr 21 19:45	2°♄33'34	1°26'32	min. Earth dist.	4287 Oct 04 15:13	12°♄36'00	3.97887 AU
min. Earth dist.	4282 Apr 22 05:39	2°♄30'22	4.46294 AU	direct	4287 Dec 02 10:15	7°♄42'42	
	4282 May 12 13:32	30°♄		evening set	4288 Apr 06 04:59	27°♄25'44	
direct	4282 Jun 23 02:03	27°♄31'04			4288 Apr 16 19:26	0°♄	
	4282 Aug 03 22:09	0°♄		conjunction	4288 Apr 19 07:56	0°♄36'47	0°-58'-48
evening set	4282 Oct 27 08:01	14°♄54'50		minimum elong	4288 Apr 19 07:56	0°♄36'47	0°58'49
	4282 Oct 27 17:40	15°♄		max. Earth dist.	4288 Apr 19 20:47	0°♄44'36	5.94480 AU
max. Earth dist.	4282 Nov 08 04:59	17°♄27'52	6.47253 AU	morning rise	4288 May 02 13:45	3°♄49'26	
conjunction	4282 Nov 09 08:14	17°♄42'34	0°58'07		4288 Jun 21 01:59	15°♄	
minimum elong	4282 Nov 09 08:15	17°♄42'34	0°58'08	retrograde	4288 Sep 11 21:00	24°♄33'09	
morning rise	4282 Nov 22 05:39	20°♄29'01		opposition	4288 Nov 10 15:22	19°♄31'16	-1°-25'-28
	4283 Jan 08 23:16	0°♄		min. Earth dist.	4288 Nov 09 18:38	19°♄38'15	3.93539 AU
retrograde	4283 Mar 22 08:07	7°♄09'30			4288 Dec 23 19:21	15°♄	
opposition	4283 May 22 02:52	2°♄16'27	1°16'18	direct	4289 Jan 07 15:09	14°♄37'10	
min. Earth dist.	4283 May 23 05:23	2°♄07'58	4.46341 AU		4289 Jan 22 11:17	15°♄	
	4283 Jun 09 13:23	30°♄		evening set	4289 Apr 24 18:58	0°♄	
direct	4283 Jul 23 20:33	27°♄14'39			4289 May 13 15:56	4°♄27'45	
	4283 Sep 06 03:36	0°♄		conjunction	4289 May 27 03:01	7°♄42'22	0°-48'-54
evening set	4283 Nov 26 19:20	14°♄41'44		minimum elong	4289 May 27 03:03	7°♄42'23	0°48'55
max. Earth dist.	4283 Dec 07 15:40	17°♄03'23	6.43350 AU	max. Earth dist.	4289 May 29 00:15	8°♄09'40	5.94987 AU
conjunction	4283 Dec 09 14:47	17°♄29'07	0°43'24	morning rise	4289 Jun 09 16:49	10°♄58'23	
minimum elong	4283 Dec 09 14:49	17°♄29'07	0°43'24		4289 Sep 18 23:09	0°♄	
morning rise	4283 Dec 22 08:09	20°♄15'35		retrograde	4289 Oct 19 11:36	1°♄29'47	
	4284 Feb 08 13:20	0°♄			4289 Nov 18 17:14	30°♄	
retrograde	4284 Apr 21 10:22	7°♄15'26		min. Earth dist.	4289 Dec 16 13:57	26°♄36'58	3.98902 AU
opposition	4284 Jun 21 07:27	2°♄23'22	0°45'36	opposition	4289 Dec 18 00:12	26°♄25'19	0°-53'-51
min. Earth dist.	4284 Jun 22 20:42	2°♄11'29	4.38726 AU	direct	4290 Feb 14 00:13	21°♄29'07	
	4284 Jul 10 20:33	30°♄			4290 May 01 06:22	0°♄	
direct	4284 Aug 22 21:05	27°♄22'54		evening set	4290 Jun 20 06:54	10°♄57'14	
	4284 Oct 04 13:29	0°♄		conjunction	4290 Jul 03 23:31	14°♄09'56	0°-19'-59
evening set	4284 Dec 26 12:27	15°♄11'57		minimum elong	4290 Jul 03 23:32	14°♄09'57	0°20'01
max. Earth dist.	4285 Jan 06 00:50	17°♄32'55	6.32568 AU	max. Earth dist.	4290 Jul 06 09:08	14°♄43'45	6.04621 AU
conjunction	4285 Jan 08 05:47	18°♄02'37	0°16'24	morning rise	4290 Jul 17 18:01	17°♄23'18	
minimum elong	4285 Jan 08 05:47	18°♄02'37	0°16'25		4290 Sep 15 05:53	0°♄	
morning rise	4285 Jan 20 21:39	20°♄52'50		retrograde	4290 Nov 23 17:19	6°♄57'42	
	4285 Mar 05 06:27	0°♄		min. Earth dist.	4291 Jan 20 20:57	2°♄05'19	4.11672 AU
retrograde	4285 May 24 08:38	8°♄39'46		opposition	4291 Jan 22 08:37	1°♄53'12	0°-3'-14
opposition	4285 Jul 24 05:16	3°♄47'07	0°00'18		4291 Feb 05 15:09	30°♄	
min. Earth dist.	4285 Jul 25 17:26	3°♄35'33	4.25385 AU	asc. node	4291 Feb 16 01:56	28°♄47'22	
desc. node	4285 Jul 26 14:51	3°♄28'42		direct	4291 Mar 22 03:25	26°♄54'07	
	4285 Aug 26 22:31	30°♄			4291 May 05 19:19	0°♄	
direct	4285 Sep 23 21:18	28°♄48'46		evening set	4291 Jul 23 13:25	15°♄	
	4285 Oct 21 19:04	0°♄			4291 Jul 26 16:32	15°♄42'15	
	4286 Jan 17 13:30	15°♄		conjunction	4291 Aug 09 09:24	18°♄48'20	0°15'08
evening set	4286 Jan 27 10:12	17°♄14'55		minimum elong	4291 Aug 09 09:23	18°♄48'20	0°15'07
max. Earth dist.	4286 Feb 07 07:12	19°♄45'47	6.17730 AU	behind sun begin	4291 Aug 09 06:56	18°♄46'57	
conjunction	4286 Feb 09 03:36	20°♄11'34	0°-16'-37	behind sun end	4291 Aug 09 11:49	18°♄49'43	
minimum elong	4286 Feb 09 03:35	20°♄11'33	0°16'39	max. Earth dist.	4291 Aug 11 09:12	19°♄15'26	6.19382 AU
morning rise	4286 Feb 21 21:04	23°♄08'31		morning rise	4291 Aug 23 02:16	21°♄54'06	

	4291 Sep 29 20:43	0°♏		conjunction	4298 Feb 13 18:13	24°≈58'15	0°-21'-12
retrograde	4291 Dec 26 14:04	10°♏17'15		minimum elong	4298 Feb 13 18:12	24°≈58'15	0°21'12
min. Earth dist.	4292 Feb 23 10:31	5°♏23'10	4.26942 AU	morning rise	4298 Feb 26 12:03	27°≈56'14	
opposition	4292 Feb 24 10:13	5°♏15'13	0°45'08		4298 Mar 07 11:03	0°♏	
direct	4292 Apr 24 13:13	0°♏13'55		retrograde	4298 Jul 03 21:51	17°♏00'09	
evening set	4292 Aug 29 02:32	18°♏21'05		opposition	4298 Sep 02 10:08	12°♏05'04	0°-54'-20
				min. Earth dist.	4298 Sep 03 07:47	11°♏58'02	4.08229 AU
conjunction	4292 Sep 11 14:49	21°♏18'59	0°43'41	direct	4298 Nov 01 13:03	7°♏09'29	
minimum elong	4292 Sep 11 14:48	21°♏18'58	0°43'41	evening set	4299 Mar 07 02:50	26°♏24'01	
max. Earth dist.	4292 Sep 12 15:14	21°♏32'23	6.33947 AU	max. Earth dist.	4299 Mar 19 06:59	29°♏18'54	6.01737 AU
morning rise	4292 Sep 25 01:30	24°♏15'52					
	4292 Oct 22 03:25	0°♏		conjunction	4299 Mar 20 00:04	29°♏29'09	0°-48'-39
retrograde	4293 Jan 25 11:25	11°♏39'33		minimum elong	4299 Mar 20 00:03	29°♏29'08	0°48'40
opposition	4293 Mar 26 16:37	6°♏41'04	1°16'57		4299 Mar 22 03:27	0°♏	
min. Earth dist.	4293 Mar 26 09:29	6°♏43'25	4.39727 AU	morning rise	4299 Apr 01 23:10	2°♏35'28	
direct	4293 May 27 01:38	1°♏38'43		retrograde	4299 Aug 10 17:04	22°♏46'51	
evening set	4293 Sep 30 13:41	19°♏15'57		opposition	4299 Oct 09 19:10	17°♏48'14	-1°-25'-6
				min. Earth dist.	4299 Oct 09 18:21	17°♏48'31	3.96782 AU
conjunction	4293 Oct 13 19:19	22°♏07'05	0°58'23	direct	4299 Dec 07 13:00	12°♏54'17	
minimum elong	4293 Oct 13 19:18	22°♏07'04	0°58'23		4300 Apr 01 04:42	0°♏	
max. Earth dist.	4293 Oct 13 14:27	22°♏04'27	6.43997 AU	evening set	4300 Apr 12 07:56	2°♏40'08	
morning rise	4293 Oct 26 22:27	24°♏56'56					
	4293 Nov 20 01:50	0°♏		conjunction	4300 Apr 25 12:07	5°♏51'59	0°-58'-49
retrograde	4294 Feb 24 12:23	11°♏45'28		minimum elong	4300 Apr 25 12:07	5°♏51'59	0°58'50
opposition	4294 Apr 26 00:48	6°♏50'24	1°26'24	max. Earth dist.	4300 Apr 26 06:45	6°♏03'18	5.93939 AU
min. Earth dist.	4294 Apr 26 13:22	6°♏46'20	4.46501 AU	morning rise	4300 May 08 18:56	9°♏05'23	
direct	4294 Jun 27 09:50	1°♏48'01			4300 Jun 02 21:00	15°♏	
	4294 Oct 11 14:15	15°♏		retrograde	4300 Sep 18 05:44	29°♏50'52	
evening set	4294 Oct 31 14:57	19°♏11'58		opposition	4300 Nov 16 21:34	24°♏48'34	-1°-22'-55
max. Earth dist.	4294 Nov 12 07:04	21°♏42'38	6.46960 AU	min. Earth dist.	4300 Nov 15 23:05	24°♏56'09	3.93639 AU
				direct	4301 Jan 13 20:29	19°♏54'17	
conjunction	4294 Nov 13 14:22	21°♏59'31	0°56'54		4301 Apr 07 03:36	0°♏	
minimum elong	4294 Nov 13 14:22	21°♏59'32	0°56'54	evening set	4301 May 19 22:00	9°♏43'52	
morning rise	4294 Nov 26 11:15	24°♏45'52					
	4294 Dec 21 12:41	0°♏		conjunction	4301 Jun 02 09:59	12°♏58'37	0°-45'-45
retrograde	4295 Mar 26 15:18	11°♏27'55		minimum elong	4301 Jun 02 10:01	12°♏58'38	0°45'46
opposition	4295 May 26 10:17	6°♏35'05	1°13'04	max. Earth dist.	4301 Jun 04 09:04	13°♏26'57	5.95693 AU
min. Earth dist.	4295 May 27 14:33	6°♏26'02	4.45581 AU	morning rise	4301 Jun 16 00:54	16°♏14'45	
direct	4295 Jul 28 04:21	1°♏33'25			4301 Aug 18 21:09	0°♏	
evening set	4295 Dec 01 01:56	19°♏02'48		retrograde	4301 Oct 25 12:01	6°♏40'58	
max. Earth dist.	4295 Dec 11 22:03	21°♏24'42	6.42179 AU	min. Earth dist.	4301 Dec 22 13:32	1°♏48'34	4.00137 AU
				opposition	4301 Dec 24 01:27	1°♏36'20	0°-47'-23
conjunction	4295 Dec 13 21:07	21°♏50'29	0°40'11		4302 Jan 05 02:08	30°♏	
minimum elong	4295 Dec 13 21:08	21°♏50'30	0°40'12	direct	4302 Feb 20 01:50	26°♏39'44	
morning rise	4295 Dec 26 13:59	24°♏37'16			4302 Apr 06 18:07	0°♏	
	4296 Jan 20 22:21	0°♏		evening set	4302 Jun 26 11:10	16°♏03'50	
retrograde	4296 Apr 25 21:12	11°♏42'06					
opposition	4296 Jun 25 19:31	6°♏50'02	0°39'51	conjunction	4302 Jul 10 04:14	19°♏15'58	0°-15'-6
min. Earth dist.	4296 Jun 27 08:25	6°♏38'16	4.37200 AU	minimum elong	4302 Jul 10 04:15	19°♏15'59	0°15'07
direct	4296 Aug 27 06:42	1°♏49'53		behind sun begin	4302 Jul 10 01:43	19°♏14'30	
evening set	4296 Dec 30 21:49	19°♏43'00		behind sun end	4302 Jul 10 06:47	19°♏17'27	
max. Earth dist.	4297 Jan 10 09:54	22°♏04'27	6.30786 AU	max. Earth dist.	4302 Jul 12 13:09	19°♏49'15	6.06270 AU
				morning rise	4302 Jul 23 22:52	22°♏28'37	
conjunction	4297 Jan 12 14:50	22°♏34'16	0°11'56		4302 Aug 26 16:48	0°♏	
minimum elong	4297 Jan 12 14:51	22°♏34'16	0°11'56	retrograde	4302 Nov 29 12:19	11°♏54'12	
behind sun begin	4297 Jan 12 09:16	22°♏31'09		asc. node	4302 Dec 27 15:51	10°♏36'17	
behind sun end	4297 Jan 12 20:25	22°♏37'23		min. Earth dist.	4303 Jan 26 17:23	7°♏01'24	4.13540 AU
morning rise	4297 Jan 25 06:50	25°♏25'14		opposition	4303 Jan 28 03:11	6°♏49'55	0°04'08
	4297 Feb 15 02:57	0°≈		direct	4303 Mar 28 03:00	1°♏50'28	
retrograde	4297 May 29 04:33	13°≈20'06			4303 Jul 07 07:36	15°♏	
desc. node	4297 Jun 05 04:27	13°≈15'28		evening set	4303 Aug 01 15:40	20°♏33'26	
opposition	4297 Jul 28 23:53	8°≈27'14	0°-6'-40				
min. Earth dist.	4297 Jul 30 11:42	8°≈15'45	4.23424 AU	conjunction	4303 Aug 15 08:14	23°♏38'32	0°19'47
direct	4297 Sep 28 13:20	3°≈29'10		minimum elong	4303 Aug 15 08:13	23°♏38'31	0°19'47
	4297 Dec 31 11:12	15°≈		max. Earth dist.	4303 Aug 17 06:46	24°♏04'46	6.21332 AU
evening set	4298 Feb 01 00:28	22°≈00'40		morning rise	4303 Aug 29 00:26	26°♏43'09	
max. Earth dist.	4298 Feb 12 00:19	24°≈33'51	6.15748 AU		4303 Sep 12 21:06	0°♏	

retrograde	4304 Jan 01 00:29	14°♏57'32			4309 Dec 13 14:52	15°♏	
opposition	4304 Feb 29 22:17	9°♏55'59	0°50'51	evening set	4310 Feb 06 11:02	26°♏36'25	
min. Earth dist.	4304 Feb 28 23:30	10°♏03'36	4.28836 AU	max. Earth dist.	4310 Feb 17 11:46	29°♏10'49	6.13807 AU
direct	4304 Apr 30 04:40	4°♏54'31					
evening set	4304 Sep 03 19:34	22°♏57'04		conjunction	4310 Feb 19 04:53	29°♏34'52	0°-25'-26
				minimum elong	4310 Feb 19 04:52	29°♏34'52	0°25'27
conjunction	4304 Sep 17 06:52	25°♏53'52	0°46'42		4310 Feb 20 23:49	0°♏	
minimum elong	4304 Sep 17 06:50	25°♏53'51	0°46'42	morning rise	4310 Mar 03 23:20	2°♏33'54	
max. Earth dist.	4304 Sep 18 03:01	26°♏04'55	6.35672 AU	retrograde	4310 Jul 09 21:16	21°♏47'28	
morning rise	4304 Sep 30 16:33	28°♏49'37		opposition	4310 Sep 08 07:42	16°♏51'57	0°-59'-50
	4304 Oct 06 02:35	0°♏		min. Earth dist.	4310 Sep 09 03:34	16°♏45'28	4.06260 AU
retrograde	4305 Jan 30 19:13	16°♏06'40		direct	4310 Nov 07 06:13	11°♏56'32	
opposition	4305 Apr 01 00:33	11°♏08'43	1°19'41		4311 Mar 07 10:59	0°♏	
min. Earth dist.	4305 Mar 31 20:29	11°♏10'04	4.41197 AU	evening set	4311 Mar 12 20:32	1°♏17'08	
direct	4305 Jun 01 14:42	6°♏06'19					
evening set	4305 Oct 06 00:37	23°♏40'01		conjunction	4311 Mar 25 18:43	4°♏23'28	0°-51'-14
				minimum elong	4311 Mar 25 18:42	4°♏23'27	0°51'14
conjunction	4305 Oct 19 05:20	26°♏30'20	0°59'09	max. Earth dist.	4311 Mar 25 06:06	4°♏15'51	5.99933 AU
minimum elong	4305 Oct 19 05:19	26°♏30'20	0°59'10	morning rise	4311 Apr 07 18:39	7°♏31'00	
max. Earth dist.	4305 Oct 18 21:31	26°♏26'08	6.45118 AU	retrograde	4311 Aug 16 23:03	27°♏51'06	
morning rise	4305 Nov 01 07:26	29°♏19'21		opposition	4311 Oct 15 22:14	22°♏52'04	-1°-26'-58
	4305 Nov 04 11:32	0°♏		min. Earth dist.	4311 Oct 15 19:21	22°♏53'01	3.95344 AU
	4306 Feb 03 09:20	15°♏		direct	4311 Dec 13 11:49	17°♏58'12	
retrograde	4306 Mar 01 16:01	16°♏04'11			4312 Mar 14 21:54	0°♏	
	4306 Mar 27 22:30	15°♏		evening set	4312 Apr 17 09:17	7°♏48'38	
opposition	4306 May 01 06:47	11°♏09'26	1°25'50				
min. Earth dist.	4306 May 01 20:40	11°♏04'57	4.47236 AU	conjunction	4312 Apr 30 14:32	11°♏01'28	0°-58'-24
direct	4306 Jul 02 17:38	6°♏07'04		minimum elong	4312 Apr 30 14:33	11°♏01'28	0°58'25
	4306 Sep 24 20:19	15°♏		max. Earth dist.	4312 May 01 11:49	11°♏14'25	5.92997 AU
evening set	4306 Nov 05 21:31	23°♏29'08		morning rise	4312 May 13 22:50	14°♏15'57	
max. Earth dist.	4306 Nov 17 11:23	25°♏58'33	6.47259 AU		4312 May 16 23:54	15°♏	
					4312 Jul 27 07:18	0°♏	
conjunction	4306 Nov 18 20:09	26°♏16'14	0°55'25	retrograde	4312 Sep 23 11:08	5°♏04'48	
minimum elong	4306 Nov 18 20:10	26°♏16'15	0°55'25	min. Earth dist.	4312 Nov 21 00:27	0°♏10'49	3.93320 AU
morning rise	4306 Dec 01 16:08	29°♏02'09		opposition	4312 Nov 22 02:12	0°♏02'06	-1°-19'-48
	4306 Dec 06 04:23	0°♏			4312 Nov 22 08:26	30°♏	
retrograde	4307 Mar 31 20:14	15°♏43'48		direct	4313 Jan 18 22:18	25°♏07'37	
opposition	4307 May 31 16:43	10°♏51'09	1°09'32		4313 Mar 15 08:43	0°♏	
min. Earth dist.	4307 Jun 01 22:43	10°♏41'34	4.45416 AU	evening set	4313 May 25 03:44	14°♏58'04	
direct	4307 Aug 02 12:07	5°♏49'39					
evening set	4307 Dec 06 06:48	23°♏19'13		conjunction	4313 Jun 07 16:53	18°♏13'12	0°-42'-17
max. Earth dist.	4307 Dec 16 23:18	25°♏39'27	6.41544 AU	minimum elong	4313 Jun 07 16:55	18°♏13'13	0°42'18
				max. Earth dist.	4313 Jun 09 18:57	18°♏43'18	5.96038 AU
conjunction	4307 Dec 19 01:20	26°♏06'54	0°36'53	morning rise	4313 Jun 21 08:43	21°♏29'36	
minimum elong	4307 Dec 19 01:21	26°♏06'55	0°36'54		4313 Jul 28 15:48	0°♏	
morning rise	4307 Dec 31 17:57	28°♏53'48		retrograde	4313 Oct 30 14:47	11°♏52'05	
	4308 Jan 05 19:40	0°♏		min. Earth dist.	4313 Dec 27 15:00	6°♏59'35	4.01081 AU
retrograde	4308 May 01 06:32	16°♏01'57		opposition	4313 Dec 29 03:01	6°♏47'18	0°-40'-39
opposition	4308 Jul 01 04:58	11°♏09'48	0°34'06	direct	4314 Feb 25 05:42	1°♏50'20	
min. Earth dist.	4308 Jul 02 18:52	10°♏57'43	4.36109 AU	evening set	4314 Jul 01 16:21	21°♏11'24	
direct	4308 Sep 01 15:08	6°♏09'46					
evening set	4309 Jan 05 03:44	24°♏05'37		conjunction	4314 Jul 15 09:54	24°♏23'04	0°-10'-7
max. Earth dist.	4309 Jan 15 16:43	26°♏28'00	6.29315 AU	minimum elong	4314 Jul 15 09:54	24°♏23'04	0°10'09
				behind sun begin	4314 Jul 15 03:15	24°♏19'13	
conjunction	4309 Jan 17 20:45	26°♏57'24	0°07'34	behind sun end	4314 Jul 15 16:33	24°♏26'55	
minimum elong	4309 Jan 17 20:46	26°♏57'25	0°07'34	max. Earth dist.	4314 Jul 17 20:37	24°♏57'15	6.07733 AU
behind sun begin	4309 Jan 17 13:32	26°♏53'20		morning rise	4314 Jul 29 04:37	27°♏35'02	
behind sun end	4309 Jan 18 04:01	27°♏01'29			4314 Aug 08 18:02	0°♏	
morning rise	4309 Jan 30 12:38	29°♏48'57			4314 Oct 30 23:15	15°♏	
	4309 Jan 31 08:18	0°♏		asc. node	4314 Nov 06 00:18	15°♏34'58	
desc. node	4309 Apr 18 03:55	14°♏37'34		retrograde	4314 Dec 04 07:02	16°♏52'07	
	4309 Apr 21 02:18	15°♏			4315 Jan 07 08:20	15°♏	
retrograde	4309 Jun 03 19:13	17°♏50'50		opposition	4315 Feb 01 22:18	11°♏48'05	0°11'28
	4309 Jul 18 04:41	15°♏		min. Earth dist.	4315 Jan 31 12:15	11°♏59'37	4.15354 AU
opposition	4309 Aug 03 14:43	12°♏57'45	0°-13'-19	direct	4315 Apr 02 01:01	6°♏48'18	
min. Earth dist.	4309 Aug 05 01:48	12°♏46'30	4.21654 AU		4315 Jun 17 18:31	15°♏	
direct	4309 Oct 03 23:59	7°♏59'57		evening set	4315 Aug 06 15:51	25°♏26'08	

conjunction	4315 Aug 20 07:48	28°♏30'07	0°24'18	retrograde	4321 Jun 08 17:49	22°♊37'44	
minimum elong	4315 Aug 20 07:46	28°♏30'06	0°24'18	opposition	4321 Aug 08 12:00	17°♊44'22	0°-20'-21
max. Earth dist.	4315 Aug 22 02:52	28°♏54'19	6.23327 AU	min. Earth dist.	4321 Aug 09 21:41	17°♊33'32	4.19331 AU
	4315 Aug 26 23:55	0°♎			4321 Aug 31 02:16	15°♊	
morning rise	4315 Sep 02 23:25	1°♎33'33		direct	4321 Oct 08 16:29	12°♊46'50	
retrograde	4316 Jan 05 12:57	19°♎38'56			4321 Nov 15 20:01	15°♊	
opposition	4316 Mar 05 11:12	14°♎37'46	0°56'14		4322 Feb 04 16:53	0°♋	
min. Earth dist.	4316 Mar 04 15:01	14°♎44'31	4.30807 AU	evening set	4322 Feb 11 04:14	1°♋30'06	
direct	4316 May 04 23:04	9°♎36'03		max. Earth dist.	4322 Feb 22 09:29	4°♋07'53	6.11491 AU
evening set	4316 Sep 08 12:22	27°♎33'27					
	4316 Sep 19 17:29	0°♌		conjunction	4322 Feb 23 22:40	4°♋29'44	0°-29'-48
				minimum elong	4322 Feb 23 22:38	4°♋29'44	0°29'49
conjunction	4316 Sep 21 22:54	0°♌29'10	0°49'26	morning rise	4322 Mar 08 17:33	7°♋29'59	
minimum elong	4316 Sep 21 22:52	0°♌29'09	0°49'25	retrograde	4322 Jul 15 04:39	26°♋54'29	
max. Earth dist.	4316 Sep 22 17:01	0°♌39'04	6.37443 AU	opposition	4322 Sep 13 13:04	21°♋58'33	-1°-5'-18
morning rise	4316 Oct 05 07:22	3°♌23'43		min. Earth dist.	4322 Sep 14 06:39	21°♋52'49	4.04164 AU
retrograde	4317 Feb 04 01:07	20°♌34'09		direct	4322 Nov 12 06:23	17°♋03'30	
opposition	4317 Apr 05 08:47	15°♌36'39	1°21'56		4323 Feb 17 23:27	0°♌	
min. Earth dist.	4317 Apr 05 06:12	15°♌37'30	4.42623 AU	evening set	4323 Mar 17 22:01	6°♌30'16	
direct	4317 Jun 06 01:39	10°♌34'12					
evening set	4317 Oct 10 11:28	28°♌04'33		conjunction	4323 Mar 30 20:56	9°♌37'44	0°-53'-35
	4317 Oct 19 10:40	0°♍		minimum elong	4323 Mar 30 20:55	9°♌37'43	0°53'36
				max. Earth dist.	4323 Mar 30 11:40	9°♌32'08	5.98249 AU
conjunction	4317 Oct 23 15:05	0°♍54'05	0°59'35	morning rise	4323 Apr 12 22:07	12°♌46'34	
minimum elong	4317 Oct 23 15:04	0°♍54'05	0°59'35		4323 Jul 07 11:27	0°♎	
max. Earth dist.	4317 Oct 23 02:47	0°♍47'28	6.46067 AU	retrograde	4323 Aug 22 10:08	3°♎14'28	
morning rise	4317 Nov 05 16:14	3°♍42'21			4323 Oct 07 22:00	30°♎♌	
	4318 Jan 03 02:01	15°♍		opposition	4323 Oct 21 08:36	28°♌14'53	-1°-28'-12
retrograde	4318 Mar 05 22:39	20°♍24'22		min. Earth dist.	4323 Oct 21 01:11	28°♌17'21	3.94291 AU
opposition	4318 May 05 13:32	15°♍30'01	1°24'47	direct	4323 Dec 18 17:57	23°♌21'05	
min. Earth dist.	4318 May 06 06:48	15°♍24'27	4.47640 AU		4324 Feb 22 13:51	0°♎	
	4318 May 09 10:45	15°♎♍		evening set	4324 Apr 22 17:20	13°♎14'06	
direct	4318 Jul 07 03:37	10°♍27'43			4324 Apr 29 23:52	15°♎	
	4318 Sep 02 23:37	15°♍					
evening set	4318 Nov 10 04:46	27°♍49'06		conjunction	4324 May 05 23:50	16°♎27'39	0°-57'-28
	4318 Nov 20 08:02	0°♎		minimum elong	4324 May 05 23:51	16°♎27'39	0°57'28
max. Earth dist.	4318 Nov 21 14:18	0°♎16'20	6.47068 AU	max. Earth dist.	4324 May 07 03:08	16°♎44'16	5.92701 AU
				morning rise	4324 May 19 09:13	19°♎42'47	
conjunction	4318 Nov 23 02:42	0°♎36'00	0°53'36		4324 Jul 03 11:25	0°♏	
minimum elong	4318 Nov 23 02:43	0°♎36'01	0°53'36	retrograde	4324 Sep 28 21:33	10°♏31'35	
morning rise	4318 Dec 05 22:04	3°♎21'46		min. Earth dist.	4324 Nov 26 07:57	5°♏37'46	3.93839 AU
retrograde	4319 Apr 05 03:46	20°♎04'57		opposition	4324 Nov 27 11:36	5°♏28'24	-1°-15'-49
opposition	4319 Jun 05 01:18	15°♎12'27	1°05'31	direct	4325 Jan 24 08:02	0°♏33'39	
min. Earth dist.	4319 Jun 06 08:31	15°♎02'28	4.44642 AU	evening set	4325 May 30 13:27	20°♏21'19	
direct	4319 Aug 06 19:30	10°♎11'04					
evening set	4319 Dec 10 13:47	27°♎42'55		conjunction	4325 Jun 13 03:32	23°♏36'15	0°-38'-22
	4319 Dec 20 23:48	0°♐		minimum elong	4325 Jun 13 03:34	23°♏36'16	0°38'23
max. Earth dist.	4319 Dec 21 05:51	0°♐03'20	6.40242 AU	max. Earth dist.	4325 Jun 15 09:39	24°♏08'38	5.97327 AU
				morning rise	4325 Jun 26 20:06	26°♏52'20	
conjunction	4319 Dec 23 08:02	0°♐30'58	0°33'14		4325 Jul 10 03:59	0°♑	
minimum elong	4319 Dec 23 08:03	0°♐30'59	0°33'15	retrograde	4325 Nov 04 17:03	17°♑06'31	
morning rise	4320 Jan 05 00:15	3°♐18'16		min. Earth dist.	4326 Jan 01 16:03	12°♑14'22	4.02995 AU
retrograde	4320 May 05 20:23	20°♐32'16		opposition	4326 Jan 03 05:26	12°♑01'38	0°-33'-29
opposition	4320 Jul 05 18:44	15°♐40'07	0°27'53	direct	4326 Mar 02 10:22	7°♑04'15	
min. Earth dist.	4320 Jul 07 09:28	15°♐27'47	4.34335 AU	evening set	4326 Jul 06 21:43	26°♑18'39	
direct	4320 Sep 06 02:27	10°♐40'22					
evening set	4321 Jan 09 14:22	28°♐41'12		conjunction	4326 Jul 20 15:09	29°♑29'13	0°-5'-5
	4321 Jan 15 09:55	0°♒		minimum elong	4326 Jul 20 15:10	29°♑29'13	0°05'07
max. Earth dist.	4321 Jan 20 02:14	1°♒03'42	6.27201 AU	behind sun begin	4326 Jul 20 07:02	29°♑24'32	
				behind sun end	4326 Jul 20 23:17	29°♑33'54	
conjunction	4321 Jan 22 07:14	1°♒33'48	0°02'55		4326 Jul 22 20:19	0°♓	
minimum elong	4321 Jan 22 07:14	1°♒33'47	0°02'56	max. Earth dist.	4326 Jul 22 23:54	0°♓02'04	6.10071 AU
behind sun begin	4321 Jan 21 23:17	1°♒29'18		morning rise	4326 Aug 03 09:51	2°♓40'02	
behind sun end	4321 Jan 22 15:10	1°♒38'17		asc. node	4326 Sep 15 09:14	11°♓59'39	
morning rise	4321 Feb 03 23:25	4°♒26'17			4326 Oct 01 09:48	15°♓	
desc. node	4321 Feb 25 10:41	9°♒11'32		retrograde	4326 Dec 08 23:00	21°♓45'38	
	4321 Mar 26 08:47	15°♒		min. Earth dist.	4327 Feb 05 07:24	16°♓52'47	4.17861 AU

opposition	4327 Feb 06 15:50	16°♏41'48	0°18'35	conjunction	4333 Jan 26 19:34	6°≈13'56	0°-1'-53
	4327 Feb 19 11:12	15°♎♏		minimum elong	4333 Jan 26 19:35	6°≈13'56	0°01'53
direct	4327 Apr 06 23:50	11°♏41'36		behind sun begin	4333 Jan 26 11:36	6°≈09'24	
	4327 May 23 15:03	15°♏		behind sun end	4333 Jan 27 03:33	6°≈18'28	
	4327 Aug 10 15:24	0°♎		morning rise	4333 Feb 08 11:54	9°≈07'32	
evening set	4327 Aug 11 13:07	0°♎12'04			4333 Mar 07 01:32	15°≈	
				retrograde	4333 Jun 13 19:58	27°≈29'55	
conjunction	4327 Aug 25 04:33	3°♎14'42	0°28'34	opposition	4333 Aug 13 11:52	22°≈36'21	0°-27'-20
minimum elong	4327 Aug 25 04:32	3°♎14'41	0°28'34	min. Earth dist.	4333 Aug 14 20:25	22°≈25'53	4.16814 AU
max. Earth dist.	4327 Aug 26 21:49	3°♎37'46	6.25797 AU	direct	4333 Oct 13 11:36	17°≈39'17	
morning rise	4327 Sep 07 19:04	6°♎16'38			4334 Jan 18 08:13	0°♎	
retrograde	4328 Jan 09 21:10	24°♎11'57		evening set	4334 Feb 16 00:05	6°♎29'58	
opposition	4328 Mar 09 20:59	19°♎11'17	1°01'05	max. Earth dist.	4334 Feb 27 08:08	9°♎10'17	6.09150 AU
min. Earth dist.	4328 Mar 09 02:46	19°♎17'21	4.33036 AU				
direct	4328 May 09 13:02	14°♎09'24		conjunction	4334 Feb 28 18:52	9°♎30'49	0°-34'00
	4328 Sep 03 16:08	0°♎		minimum elong	4334 Feb 28 18:51	9°♎30'48	0°34'01
evening set	4328 Sep 13 01:58	2°♎01'09		morning rise	4334 Mar 13 14:39	12°♎32'25	
					4334 Jun 13 09:00	0°♎	
conjunction	4328 Sep 26 11:20	4°♎55'42	0°51'47	retrograde	4334 Jul 20 12:55	2°♎07'53	
minimum elong	4328 Sep 26 11:19	4°♎55'41	0°51'47		4334 Aug 26 23:17	30°♎♎	
max. Earth dist.	4328 Sep 26 23:27	5°♎02'17	6.39243 AU	opposition	4334 Sep 18 20:56	27°♎11'29	-1°-10'-20
morning rise	4328 Oct 09 18:52	7°♎49'06		min. Earth dist.	4334 Sep 19 10:00	27°♎07'12	4.02240 AU
retrograde	4329 Feb 08 06:03	24°♎53'20		direct	4334 Nov 17 08:26	22°♎16'45	
opposition	4329 Apr 09 14:11	19°♎56'18	1°23'40		4335 Jan 28 18:38	0°♎	
min. Earth dist.	4329 Apr 09 15:28	19°♎55'53	4.43893 AU	evening set	4335 Mar 23 01:54	11°♎48'58	
direct	4329 Jun 10 11:26	14°♎53'45					
	4329 Oct 03 15:44	0°♎		conjunction	4335 Apr 05 01:51	14°♎57'28	0°-55'-31
evening set	4329 Oct 14 19:11	2°♎21'28		minimum elong	4335 Apr 05 01:50	14°♎57'27	0°55'32
				max. Earth dist.	4335 Apr 04 23:21	14°♎55'58	5.96934 AU
conjunction	4329 Oct 27 22:04	5°♎10'26	0°59'40	morning rise	4335 Apr 18 03:58	18°♎07'22	
minimum elong	4329 Oct 27 22:04	5°♎10'26	0°59'40		4335 Jun 10 09:24	0°♎	
max. Earth dist.	4329 Oct 27 06:29	5°♎02'03	6.46705 AU	retrograde	4335 Aug 28 00:03	8°♎41'07	
morning rise	4329 Nov 09 22:11	7°♎58'05		opposition	4335 Oct 26 19:58	3°♎40'58	-1°-28'-38
	4329 Dec 14 05:23	15°♎		min. Earth dist.	4335 Oct 26 09:44	3°♎44'23	3.93742 AU
retrograde	4330 Mar 10 01:36	24°♎38'36			4335 Nov 27 04:10	30°♎♎	
opposition	4330 May 09 18:21	19°♎44'35	1°23'21	direct	4335 Dec 24 03:11	28°♎47'10	
min. Earth dist.	4330 May 10 13:25	19°♎38'27	4.47627 AU		4336 Jan 19 22:04	0°♎	
	4330 Jun 27 09:44	15°♎♎			4336 Apr 12 16:31	15°♎	
direct	4330 Jul 11 08:30	14°♎42'23		evening set	4336 Apr 28 02:12	18°♎40'45	
	4330 Jul 25 10:58	15°♎					
	4330 Nov 04 16:15	0°♎♎		conjunction	4336 May 11 09:51	21°♎54'44	0°-56'-2
evening set	4330 Nov 14 10:18	2°♎04'29		minimum elong	4336 May 11 09:52	21°♎54'45	0°56'02
max. Earth dist.	4330 Nov 25 15:58	4°♎29'58	6.46397 AU	max. Earth dist.	4336 May 12 18:28	22°♎14'33	5.92952 AU
				morning rise	4336 May 24 20:26	25°♎10'16	
conjunction	4330 Nov 27 07:32	4°♎51'24	0°51'32		4336 Jun 14 05:54	0°♎	
minimum elong	4330 Nov 27 07:34	4°♎51'25	0°51'33	retrograde	4336 Oct 04 05:48	15°♎56'14	
morning rise	4330 Dec 10 02:22	7°♎37'13		opposition	4336 Dec 02 19:38	10°♎52'41	-1°-11'-11
retrograde	4331 Apr 09 12:59	24°♎23'41		min. Earth dist.	4336 Dec 01 13:13	11°♎03'00	3.94868 AU
opposition	4331 Jun 09 09:34	19°♎31'23	1°01'13	direct	4337 Jan 29 15:08	5°♎57'41	
min. Earth dist.	4331 Jun 10 19:32	19°♎20'33	4.43349 AU	evening set	4337 Jun 04 21:50	25°♎40'55	
direct	4331 Aug 11 03:52	14°♎30'11					
	4331 Dec 05 04:49	0°♎		conjunction	4337 Jun 18 12:32	28°♎55'23	0°-34'-10
evening set	4331 Dec 14 20:54	2°♎06'05		minimum elong	4337 Jun 18 12:34	28°♎55'24	0°34'11
max. Earth dist.	4331 Dec 25 10:16	4°♎25'39	6.38414 AU	max. Earth dist.	4337 Jun 20 19:06	29°♎27'54	5.98998 AU
					4337 Jun 23 01:01	0°♎	
conjunction	4331 Dec 27 14:51	4°♎54'44	0°29'26	morning rise	4337 Jul 02 05:49	2°♎10'56	
minimum elong	4331 Dec 27 14:53	4°♎54'44	0°29'26	retrograde	4337 Nov 09 16:00	22°♎15'46	
morning rise	4332 Jan 09 07:02	7°♎42'43		min. Earth dist.	4338 Jan 06 16:10	17°♎23'36	4.05098 AU
retrograde	4332 May 10 11:44	25°♎04'27		opposition	4338 Jan 08 05:30	17°♎10'52	0°-26'-9
opposition	4332 Jul 10 09:34	20°♎12'14	0°21'29	direct	4338 Mar 07 14:07	12°♎13'02	
min. Earth dist.	4332 Jul 11 23:47	20°♎00'02	4.32091 AU		4338 Jul 06 03:25	0°♎	
direct	4332 Sep 10 12:59	15°♎12'46		evening set	4338 Jul 12 00:43	1°♎20'39	
	4332 Dec 30 03:24	0°≈					
desc. node	4333 Jan 04 20:11	1°≈15'31		conjunction	4338 Jul 25 18:18	4°♎30'10	0°00'00
evening set	4333 Jan 14 02:30	3°≈20'17		minimum elong	4338 Jul 25 18:19	4°♎30'10	0°00'01
max. Earth dist.	4333 Jan 24 17:08	5°≈45'07	6.24729 AU	behind sun begin	4338 Jul 25 12:10	4°♎26'39	
				behind sun end	4338 Jul 26 00:28	4°♎33'40	

asc. node	4338 Jul 25 19:48	4°♏30'57		max. Earth dist.	4345 Jan 29 07:33	10°≈29'34	6.22517 AU
max. Earth dist.	4338 Jul 28 02:39	5°♏02'36	6.12432 AU				
morning rise	4338 Aug 08 12:32	7°♏39'43		conjunction	4345 Jan 31 09:15	10°≈58'05	0°-6'-40
	4338 Sep 10 22:29	15°♏		minimum elong	4345 Jan 31 09:15	10°≈58'05	0°06'40
retrograde	4338 Dec 13 14:01	26°♏34'17		behind sun begin	4345 Jan 31 01:46	10°≈53'49	
min. Earth dist.	4339 Feb 10 00:33	21°♏41'12	4.20244 AU	behind sun end	4345 Jan 31 16:43	11°≈02'21	
opposition	4339 Feb 11 07:07	21°♏30'52	0°25'28	morning rise	4345 Feb 13 01:58	13°≈52'44	
direct	4339 Apr 11 19:23	16°♏30'25			4345 Feb 18 00:09	15°≈	
	4339 Jul 24 17:27	0°♐			4345 May 09 21:13	0°♐	
evening set	4339 Aug 16 08:50	4°♐54'25		retrograde	4345 Jun 18 20:27	2°♐25'01	
					4345 Jul 29 07:06	30°♐≈	
conjunction	4339 Aug 29 23:26	7°♐55'48	0°32'37	opposition	4345 Aug 18 12:48	27°≈31'06	0°-34'-14
minimum elong	4339 Aug 29 23:25	7°♐55'47	0°32'36	min. Earth dist.	4345 Aug 19 17:53	27°≈21'43	4.14689 AU
max. Earth dist.	4339 Aug 31 11:51	8°♐16'03	6.28004 AU	direct	4345 Oct 18 07:00	22°≈34'25	
morning rise	4339 Sep 12 13:15	10°♐56'27			4345 Dec 29 12:56	0°♐	
retrograde	4340 Jan 14 04:15	28°♐43'02		evening set	4346 Feb 20 20:33	11°♐30'56	
opposition	4340 Mar 14 05:47	23°♐42'51	1°05'34	max. Earth dist.	4346 Mar 04 10:29	14°♐15'20	6.07317 AU
min. Earth dist.	4340 Mar 13 14:23	23°♐47'58	4.34918 AU				
direct	4340 May 14 02:14	18°♐40'46		conjunction	4346 Mar 05 15:52	14°♐32'47	0°-37'-59
	4340 Aug 17 13:32	0°♑		minimum elong	4346 Mar 05 15:51	14°♐32'46	0°37'59
evening set	4340 Sep 17 14:31	6°♑28'09		morning rise	4346 Mar 18 12:12	17°♐35'27	
					4346 May 14 23:42	0°♑	
conjunction	4340 Sep 30 23:09	9°♑21'47	0°53'50	retrograde	4346 Jul 25 22:32	7°♑19'40	
minimum elong	4340 Sep 30 23:07	9°♑21'46	0°53'51	opposition	4346 Sep 24 04:13	2°♑22'46	-1°-14'-46
max. Earth dist.	4340 Oct 01 08:02	9°♑26'37	6.40673 AU	min. Earth dist.	4346 Sep 24 14:39	2°♑19'20	4.00886 AU
morning rise	4340 Oct 14 05:28	12°♑14'11			4346 Oct 13 02:39	30°♑♐	
retrograde	4341 Feb 12 10:10	29°♑13'36		direct	4346 Nov 22 12:37	27°♐28'16	
opposition	4341 Apr 13 19:53	24°♑17'03	1°24'59		4347 Jan 01 04:00	0°♑	
min. Earth dist.	4341 Apr 13 23:33	24°♑15'52	4.44794 AU	evening set	4347 Mar 28 04:35	17°♑03'36	
direct	4341 Jun 14 19:40	19°♑14'32					
	4341 Sep 16 15:20	0°♒		conjunction	4347 Apr 10 05:24	20°♑12'52	0°-56'-59
evening set	4341 Oct 19 03:24	6°♒40'37		minimum elong	4347 Apr 10 05:23	20°♑12'51	0°57'01
max. Earth dist.	4341 Oct 31 08:20	9°♒17'50	6.47002 AU	max. Earth dist.	4347 Apr 10 07:53	20°♑14'22	5.96181 AU
				morning rise	4347 Apr 23 08:38	23°♑23'35	
conjunction	4341 Nov 01 05:17	9°♒29'07	0°59'27		4347 May 21 14:01	0°♒	
minimum elong	4341 Nov 01 05:17	9°♒29'07	0°59'26	retrograde	4347 Sep 02 08:24	14°♒00'29	
morning rise	4341 Nov 14 04:43	12°♒16'22		opposition	4347 Nov 01 04:21	8°♒59'47	-1°-28'-17
	4341 Nov 27 02:04	15°♒		min. Earth dist.	4347 Oct 31 14:13	9°♒04'31	3.93711 AU
retrograde	4342 Mar 14 08:22	28°♒56'24		direct	4347 Dec 29 08:08	4°♒05'59	
opposition	4342 May 14 00:36	24°♒02'42	1°21'27		4348 Mar 25 10:17	15°♒	
min. Earth dist.	4342 May 14 23:02	23°♒55'30	4.47323 AU	evening set	4348 May 03 08:04	23°♒58'17	
direct	4342 Jul 15 16:57	19°♒00'33					
	4342 Oct 18 19:35	0°♓		conjunction	4348 May 16 16:36	27°♒12'23	0°-54'-9
evening set	4342 Nov 18 17:00	6°♓24'03		minimum elong	4348 May 16 16:37	27°♒12'24	0°54'11
max. Earth dist.	4342 Nov 29 20:15	8°♓48'32	6.45510 AU	max. Earth dist.	4348 May 18 04:09	27°♒33'57	5.93616 AU
					4348 May 28 05:36	0°♓	
conjunction	4342 Dec 01 13:50	9°♓11'06	0°49'09	morning rise	4348 May 30 04:15	0°♓28'05	
minimum elong	4342 Dec 01 13:52	9°♓11'07	0°49'09	retrograde	4348 Oct 09 08:46	21°♓09'36	
morning rise	4342 Dec 14 08:05	11°♓57'05		opposition	4348 Dec 07 23:09	16°♓05'42	-1°-6'-7
retrograde	4343 Apr 13 21:59	28°♓47'24		min. Earth dist.	4348 Dec 06 15:12	16°♓16'34	3.96147 AU
opposition	4343 Jun 13 19:39	23°♓55'10	0°56'29	direct	4349 Feb 03 20:28	11°♓10'19	
min. Earth dist.	4343 Jun 15 05:54	23°♓44'15	4.41944 AU		4349 Jun 06 15:30	0°♔	
direct	4343 Aug 15 11:30	18°♓54'12		evening set	4349 Jun 10 02:00	0°♔48'35	
	4343 Nov 18 04:52	0°♕					
evening set	4343 Dec 19 05:33	6°♕34'11		conjunction	4349 Jun 23 17:30	4°♕02'33	0°-29'-51
max. Earth dist.	4343 Dec 29 18:43	8°♕54'15	6.36603 AU	minimum elong	4349 Jun 23 17:31	4°♕02'34	0°29'52
				max. Earth dist.	4349 Jun 26 02:11	4°♕36'10	6.00771 AU
conjunction	4343 Dec 31 23:14	9°♕23'26	0°25'23	morning rise	4349 Jul 07 11:03	7°♕17'24	
minimum elong	4343 Dec 31 23:15	9°♕23'27	0°25'23	retrograde	4349 Nov 14 11:56	27°♕12'46	
morning rise	4344 Jan 13 15:17	12°♕12'06		min. Earth dist.	4350 Jan 11 12:38	22°♕20'21	4.07157 AU
retrograde	4344 May 15 06:16	29°♕41'32		opposition	4350 Jan 13 00:55	22°♕08'00	0°-18'-56
opposition	4344 Jul 15 02:43	24°♕49'15	0°14'47	direct	4350 Mar 12 12:53	17°♕09'48	
min. Earth dist.	4344 Jul 16 17:24	24°♕36'54	4.29984 AU	asc. node	4350 Jun 05 17:10	27°♕12'51	
direct	4344 Sep 15 03:39	19°♕50'09			4350 Jun 19 03:15	0°♎	
desc. node	4344 Nov 13 17:15	24°♕50'57		evening set	4350 Jul 16 23:38	6°♎11'14	
	4344 Dec 12 09:58	0°≈					
evening set	4345 Jan 18 16:08	8°≈03'30		conjunction	4350 Jul 30 17:00	9°♎19'42	0°04'54

minimum elong	4350 Jul 30 17:00	9°♏19'42	0°04'54	max. Earth dist.	4356 Jan 03 02:57	13°♑22'59	6.34927 AU
behind sun begin	4350 Jul 30 08:51	9°♏15'03					
behind sun end	4350 Jul 31 01:08	9°♏24'21		conjunction	4356 Jan 05 07:31	13°♑52'18	0°21'11
max. Earth dist.	4350 Aug 01 22:25	9°♏50'18	6.14582 AU	minimum elong	4356 Jan 05 07:32	13°♑52'18	0°21'12
morning rise	4350 Aug 13 11:02	12°♏28'09		morning rise	4356 Jan 17 23:25	16°♑41'35	
	4350 Aug 24 16:58	15°♏			4356 Mar 26 09:48	0°♑	
	4350 Nov 20 10:36	0°♐		retrograde	4356 May 19 21:49	4°♑18'09	
retrograde	4350 Dec 17 23:45	1°♐13'00			4356 Jul 15 07:34	30°♑♑	
	4351 Jan 14 08:33	30°♑♏		opposition	4356 Jul 19 19:11	29°♑25'41	0°08'00
opposition	4351 Feb 15 18:49	26°♏09'59	0°31'57	min. Earth dist.	4356 Jul 21 08:13	29°♑13'51	4.28086 AU
min. Earth dist.	4351 Feb 14 13:46	26°♏19'47	4.22300 AU	direct	4356 Sep 19 15:59	24°♑26'54	
direct	4351 Apr 16 10:40	21°♏09'16		desc. node	4356 Sep 23 04:53	24°♑28'03	
	4351 Jul 06 11:54	0°♐			4356 Nov 21 11:39	0°♑	
evening set	4351 Aug 21 01:05	9°♐28'13		evening set	4357 Jan 23 04:58	12°♑45'23	
					4357 Feb 01 23:24	15°♑	
conjunction	4351 Sep 03 15:05	12°♐28'34	0°36'20	max. Earth dist.	4357 Feb 02 22:59	15°♑13'36	6.20531 AU
minimum elong	4351 Sep 03 15:03	12°♐28'33	0°36'20				
max. Earth dist.	4351 Sep 04 23:46	12°♐46'41	6.29822 AU	conjunction	4357 Feb 04 22:09	15°♑40'48	0°-11'-20
morning rise	4351 Sep 17 03:53	15°♐28'03		minimum elong	4357 Feb 04 22:08	15°♑40'48	0°11'22
	4351 Dec 03 21:49	0°♑		behind sun begin	4357 Feb 04 16:14	15°♑37'25	
retrograde	4352 Jan 18 10:46	3°♑07'38		behind sun end	4357 Feb 05 04:02	15°♑44'11	
	4352 Mar 04 02:00	30°♑♐		morning rise	4357 Feb 17 15:08	18°♑36'23	
opposition	4352 Mar 18 12:29	28°♐08'03	1°09'33		4357 Apr 12 14:26	0°♑	
min. Earth dist.	4352 Mar 18 00:08	28°♐12'09	4.36379 AU	retrograde	4357 Jun 23 22:11	7°♑17'54	
direct	4352 May 18 13:13	23°♐05'56		opposition	4357 Aug 23 12:35	2°♑23'38	0°-40'-51
	4352 Jul 29 07:59	0°♑		min. Earth dist.	4357 Aug 24 16:31	2°♑14'36	4.12734 AU
evening set	4352 Sep 22 01:26	10°♑50'26			4357 Sep 11 20:35	30°♑♑	
				direct	4357 Oct 23 03:37	27°♑27'15	
conjunction	4352 Oct 05 09:05	13°♑43'19	0°55'33		4357 Dec 02 16:28	0°♑	
minimum elong	4352 Oct 05 09:04	13°♑43'18	0°55'33	evening set	4358 Feb 25 15:29	16°♑29'06	
max. Earth dist.	4352 Oct 05 12:51	13°♑45'21	6.41668 AU	max. Earth dist.	4358 Mar 09 09:12	19°♑16'22	6.05558 AU
morning rise	4352 Oct 18 14:33	16°♑34'58					
	4352 Dec 29 18:41	0°♒		conjunction	4358 Mar 10 11:22	19°♑31'56	0°-41'-39
retrograde	4353 Feb 16 14:22	3°♒31'06		minimum elong	4358 Mar 10 11:20	19°♑31'55	0°41'39
	4353 Apr 06 23:49	30°♒♑		morning rise	4358 Mar 23 08:29	22°♑35'43	
opposition	4353 Apr 18 00:44	28°♑35'02	1°25'49		4358 Apr 24 18:01	0°♑	
min. Earth dist.	4353 Apr 18 07:10	28°♑32'56	4.45306 AU	retrograde	4358 Jul 31 04:44	12°♑28'29	
direct	4353 Jun 19 03:11	23°♑32'32		opposition	4358 Sep 29 09:31	7°♑31'05	-1°-18'-37
	4353 Aug 28 04:12	0°♒		min. Earth dist.	4358 Sep 29 16:10	7°♑28'54	3.99508 AU
evening set	4353 Oct 23 10:48	10°♒58'13		direct	4358 Nov 27 12:16	2°♑36'47	
				evening set	4359 Apr 02 06:15	22°♑15'46	
conjunction	4353 Nov 05 12:04	13°♒46'27	0°58'53				
minimum elong	4353 Nov 05 12:05	13°♒46'28	0°58'54	conjunction	4359 Apr 15 07:56	25°♑25'51	0°-58'00
max. Earth dist.	4353 Nov 04 13:20	13°♒34'13	6.47004 AU	minimum elong	4359 Apr 15 07:55	25°♑25'51	0°58'01
	4353 Nov 11 04:35	15°♒		max. Earth dist.	4359 Apr 15 14:19	25°♑29'44	5.95304 AU
morning rise	4353 Nov 18 10:33	16°♒33'24		morning rise	4359 Apr 28 12:17	28°♑37'28	
	4354 Jan 30 16:24	0°♑			4359 May 04 05:46	0°♑	
retrograde	4354 Mar 18 13:17	3°♑13'56			4359 Jul 16 08:35	15°♑	
	4354 May 05 02:26	30°♑♒		retrograde	4359 Sep 07 15:48	19°♑18'08	
opposition	4354 May 18 06:53	28°♒20'34	1°19'06		4359 Nov 01 02:21	15°♑♑	
min. Earth dist.	4354 May 19 06:36	28°♒12'57	4.46836 AU	opposition	4359 Nov 06 11:08	14°♑16'53	-1°-27'-16
direct	4354 Jul 19 23:29	23°♒18'37		min. Earth dist.	4359 Nov 05 18:21	14°♑22'32	3.93438 AU
	4354 Sep 29 12:46	0°♑		direct	4360 Jan 03 13:20	9°♑22'55	
evening set	4354 Nov 22 23:39	10°♑43'53			4360 Mar 03 10:47	15°♑	
max. Earth dist.	4354 Dec 03 23:28	13°♑06'58	6.44562 AU	evening set	4360 May 08 13:37	29°♑15'17	
					4360 May 11 15:49	0°♒	
conjunction	4354 Dec 05 19:47	13°♑31'04	0°46'29				
minimum elong	4354 Dec 05 19:48	13°♑31'05	0°46'29	conjunction	4360 May 21 23:26	2°♒29'47	0°-51'-52
morning rise	4354 Dec 18 13:43	16°♑17'17		minimum elong	4360 May 21 23:28	2°♒29'48	0°51'54
	4355 Mar 02 17:14	0°♑		max. Earth dist.	4360 May 23 15:59	2°♒54'20	5.93981 AU
retrograde	4355 Apr 18 09:20	3°♑11'40		morning rise	4360 Jun 04 12:01	5°♒45'44	
	4355 Jun 04 19:47	30°♑♑		retrograde	4360 Oct 14 13:59	26°♒23'53	
opposition	4355 Jun 18 06:15	28°♑19'31	0°51'24		4360 Dec 11 17:52	21°♒30'49	3.97104 AU
min. Earth dist.	4355 Jun 19 18:09	28°♑08'04	4.40584 AU	min. Earth dist.	4360 Dec 13 02:31	21°♒19'43	-1°00'-33
direct	4355 Aug 19 21:51	23°♑18'46		opposition	4361 Feb 09 00:42	16°♒23'58	
	4355 Oct 29 17:35	0°♑		direct	4361 May 20 06:41	0°♑	
evening set	4355 Dec 23 13:58	11°♑02'28		evening set	4361 Jun 15 07:12	5°♑58'41	

conjunction	4361 Jun 28 23:13	9°☾12'14	0°-25'-17			4366 Sep 03 13:15	0°♏	
minimum elong	4361 Jun 28 23:14	9°☾12'15	0°25'18	evening set		4366 Nov 27 05:03	15°♏00'39	
max. Earth dist.	4361 Jul 01 08:04	9°☾45'49	6.02207 AU	max. Earth dist.		4366 Dec 08 04:01	17°♏23'24	6.44199 AU
morning rise	4361 Jul 12 17:24	12°☾26'38						
	4361 Oct 12 18:23	0°♏		conjunction		4366 Dec 10 00:44	17°♏47'46	0°43'40
retrograde	4361 Nov 19 07:01	2°♏13'42		minimum elong		4366 Dec 10 00:46	17°♏47'47	0°43'39
	4361 Dec 26 15:07	30°♏☾		morning rise		4366 Dec 22 17:58	20°♏33'54	
min. Earth dist.	4362 Jan 16 08:52	27°☾21'27	4.08911 AU			4367 Feb 07 09:02	0°☾	
opposition	4362 Jan 17 21:28	27°☾08'59	0°-11'-32	retrograde		4367 Apr 22 16:05	7°☾30'29	
direct	4362 Mar 17 11:33	22°☾10'23		opposition		4367 Jun 22 14:59	2°☾38'23	0°46'12
asc. node	4362 Apr 15 07:41	23°☾31'33		min. Earth dist.		4367 Jun 24 03:06	2°☾26'53	4.39789 AU
	4362 May 30 10:45	0°♏				4367 Jul 14 11:07	30°♏♏	
evening set	4362 Jul 22 00:32	11°♏06'43		direct		4367 Aug 24 05:20	27°♏37'53	
						4367 Oct 03 19:20	0°☾	
conjunction	4362 Aug 04 17:47	14°♏14'15	0°09'47	evening set		4367 Dec 27 19:40	15°☾23'24	
minimum elong	4362 Aug 04 17:46	14°♏14'15	0°09'47	max. Earth dist.		4368 Jan 07 07:12	17°☾43'34	6.33743 AU
behind sun begin	4362 Aug 04 11:00	14°♏10'24						
behind sun end	4362 Aug 05 00:32	14°♏18'06		conjunction		4368 Jan 09 12:47	18°☾13'32	0°17'02
max. Earth dist.	4362 Aug 06 20:53	14°♏43'24	6.16517 AU	minimum elong		4368 Jan 09 12:47	18°☾13'33	0°17'03
	4362 Aug 08 01:59	15°♏		morning rise		4368 Jan 22 04:40	21°☾03'16	
morning rise	4362 Aug 18 11:20	17°♏21'37				4368 Mar 04 18:39	0°≈	
	4362 Oct 19 11:03	0°♏		retrograde		4368 May 24 12:11	8°≈45'44	
retrograde	4362 Dec 22 13:57	5°♏57'21		opposition		4368 Jul 24 08:47	3°≈53'05	0°01'27
min. Earth dist.	4363 Feb 19 06:15	1°♏03'41	4.24232 AU	min. Earth dist.		4368 Jul 25 22:22	3°≈41'04	4.26549 AU
opposition	4363 Feb 20 08:43	0°♏54'46	0°38'21	desc. node		4368 Aug 05 03:46	2°≈23'52	
	4363 Feb 27 04:26	30°♏♏				4368 Aug 28 07:43	30°♏☾	
direct	4363 Apr 21 05:58	25°♏53'49		direct		4368 Sep 24 03:49	28°☾54'31	
	4363 Jun 13 03:08	0°♏				4368 Oct 20 20:59	0°≈	
evening set	4363 Aug 25 19:52	14°♏07'54				4369 Jan 17 12:50	15°≈	
				evening set		4369 Jan 27 13:54	17°≈17'05	
conjunction	4363 Sep 08 09:09	17°♏07'11	0°39'56	max. Earth dist.		4369 Feb 07 09:15	19°≈46'38	6.18765 AU
minimum elong	4363 Sep 08 09:07	17°♏07'10	0°39'56					
max. Earth dist.	4363 Sep 09 14:55	17°♏23'37	6.31623 AU	conjunction		4369 Feb 09 07:18	20°≈13'17	0°-15'-45
morning rise	4363 Sep 21 21:02	20°♏05'32		minimum elong		4369 Feb 09 07:17	20°≈13'16	0°15'46
	4363 Nov 09 10:26	0°♏		behind sun begin		4369 Feb 09 05:16	20°≈12'07	
retrograde	4364 Jan 22 17:37	7°♏37'54		behind sun end		4369 Feb 09 09:17	20°≈14'26	
opposition	4364 Mar 22 21:28	2°♏38'48	1°13'14	morning rise		4369 Feb 22 00:31	23°≈09'43	
min. Earth dist.	4364 Mar 22 10:35	2°♏42'24	4.37960 AU			4369 Mar 24 17:28	0°♏	
	4364 Apr 13 01:19	30°♏♏		retrograde		4369 Jun 28 17:54	11°♏59'58	
direct	4364 May 23 01:31	27°♏36'37		opposition		4369 Aug 28 08:06	7°♏05'23	0°-46'-55
	4364 Jul 02 13:17	0°♏		min. Earth dist.		4369 Aug 29 09:52	6°♏57'02	4.10870 AU
evening set	4364 Sep 26 14:06	15°♏17'26		direct		4369 Oct 27 17:41	2°♏09'18	
				evening set		4370 Mar 02 06:51	21°♏16'43	
conjunction	4364 Oct 09 20:49	18°♏09'25	0°57'01	max. Earth dist.		4370 Mar 14 03:26	24°♏06'21	6.03753 AU
minimum elong	4364 Oct 09 20:48	18°♏09'25	0°57'00					
max. Earth dist.	4364 Oct 09 21:44	18°♏09'55	6.42951 AU	conjunction		4370 Mar 15 03:13	24°♏20'34	0°-44'-52
morning rise	4364 Oct 23 01:10	21°♏00'08		minimum elong		4370 Mar 15 03:12	24°♏20'33	0°44'53
	4364 Dec 06 16:20	0°♏		morning rise		4370 Mar 28 01:11	27°♏25'29	
retrograde	4365 Feb 20 19:52	7°♏51'53				4370 Apr 07 23:23	0°♏	
opposition	4365 Apr 22 07:27	2°♏56'16	1°26'14	retrograde		4370 Aug 05 07:55	17°♏27'26	
min. Earth dist.	4365 Apr 22 16:13	2°♏53'25	4.46233 AU	opposition		4370 Oct 04 10:55	12°♏29'32	-1°-21'-47
	4365 May 16 13:16	30°♏♏		min. Earth dist.		4370 Oct 04 15:20	12°♏28'05	3.97929 AU
direct	4365 Jun 23 13:43	27°♏53'53		direct		4370 Dec 02 09:46	7°♏35'21	
	4365 Jul 31 21:18	0°♏		evening set		4371 Apr 07 04:43	27°♏19'19	
	4365 Oct 26 10:26	15°♏				4371 Apr 18 05:32	0°♏	
evening set	4365 Oct 27 18:50	15°♏17'17						
				conjunction		4371 Apr 20 07:40	0°♏30'30	0°-58'-34
conjunction	4365 Nov 09 19:07	18°♏04'58	0°58'03	minimum elong		4371 Apr 20 07:39	0°♏30'30	0°58'34
minimum elong	4365 Nov 09 19:08	18°♏04'58	0°58'04	max. Earth dist.		4371 Apr 20 19:07	0°♏37'28	5.94116 AU
max. Earth dist.	4365 Nov 08 16:34	17°♏50'40	6.47513 AU	morning rise		4371 May 03 13:07	3°♏43'13	
morning rise	4365 Nov 22 16:52	20°♏51'25				4371 Jun 22 12:01	15°♏	
	4366 Jan 07 08:53	0°♏		retrograde		4371 Sep 12 23:05	24°♏29'05	
retrograde	4366 Mar 22 18:34	7°♏30'44		opposition		4371 Nov 11 15:23	19°♏27'27	-1°-25'-38
opposition	4366 May 22 13:26	2°♏37'34	1°16'24	min. Earth dist.		4371 Nov 10 20:39	19°♏33'46	3.92794 AU
min. Earth dist.	4366 May 23 14:59	2°♏29'23	4.46911 AU			4371 Dec 23 13:56	15°♏♏	
	4366 Jun 13 04:02	30°♏♏		direct		4372 Jan 08 15:09	14°♏33'25	
direct	4366 Jul 24 07:39	27°♏35'43				4372 Jan 24 15:40	15°♏	

	4372 Apr 24 21:59	0°♂		conjunction	4377 Nov 14 02:21	22°♂25'06	0°56'52
evening set	4372 May 13 17:47	4°♂27'43		minimum elong	4377 Nov 14 02:22	22°♂25'06	0°56'53
				morning rise	4377 Nov 26 23:13	25°♂11'10	
conjunction	4372 May 27 04:38	7°♂42'46	0°-49'-14		4377 Dec 19 23:36	0°♂	
minimum elong	4372 May 27 04:40	7°♂42'48	0°49'15	retrograde	4378 Mar 27 01:06	11°♂50'30	
max. Earth dist.	4372 May 28 23:21	8°♂08'37	5.93930 AU	opposition	4378 May 26 21:01	6°♂57'35	1°13'13
morning rise	4372 Jun 09 18:33	10°♂59'19		min. Earth dist.	4378 May 28 00:52	6°♂48'41	4.46520 AU
	4372 Sep 18 04:25	0°♂		direct	4378 Jul 28 16:29	1°♂55'52	
retrograde	4372 Oct 19 15:59	1°♂35'49		evening set	4378 Dec 01 11:45	19°♂21'59	
	4372 Nov 19 23:14	30°♂		max. Earth dist.	4378 Dec 12 06:34	21°♂42'53	6.43238 AU
min. Earth dist.	4372 Dec 16 17:42	26°♂43'19	3.97663 AU				
opposition	4372 Dec 18 04:37	26°♂31'25	0°-54'-40	conjunction	4378 Dec 14 06:48	22°♂09'14	0°40'30
direct	4373 Feb 14 02:12	21°♂35'20		minimum elong	4378 Dec 14 06:49	22°♂09'15	0°40'31
	4373 Apr 30 17:49	0°♂		morning rise	4378 Dec 26 23:48	24°♂55'38	
evening set	4373 Jun 20 12:28	11°♂08'18			4379 Jan 19 21:49	0°♂	
				retrograde	4379 Apr 27 04:04	11°♂56'39	
conjunction	4373 Jul 04 05:10	14°♂21'38	0°-20'-34	opposition	4379 Jun 27 02:43	7°♂04'31	0°40'33
minimum elong	4373 Jul 04 05:11	14°♂21'39	0°20'36	min. Earth dist.	4379 Jun 28 16:04	6°♂52'37	4.38299 AU
max. Earth dist.	4373 Jul 06 14:55	14°♂55'39	6.03333 AU	direct	4379 Aug 28 15:42	2°♂04'09	
morning rise	4373 Jul 17 23:42	17°♂35'38		evening set	4380 Jan 01 04:38	19°♂53'49	
	4373 Sep 14 02:39	0°♂		max. Earth dist.	4380 Jan 11 17:01	22°♂15'01	6.31843 AU
retrograde	4373 Nov 24 04:34	7°♂15'33					
min. Earth dist.	4374 Jan 21 06:43	2°♂23'02	4.10453 AU	conjunction	4380 Jan 13 21:46	22°♂44'40	0°12'35
opposition	4374 Jan 22 18:13	2°♂10'57	0°-4'-7	minimum elong	4380 Jan 13 21:47	22°♂44'40	0°12'36
	4374 Feb 08 09:49	30°♂		behind sun begin	4380 Jan 13 16:37	22°♂41'47	
asc. node	4374 Feb 23 01:50	28°♂26'42		behind sun end	4380 Jan 14 02:58	22°♂47'34	
direct	4374 Mar 22 12:37	27°♂11'58		morning rise	4380 Jan 26 13:32	25°♂35'08	
	4374 May 03 17:42	0°♂			4380 Feb 15 16:27	0°♂	
	4374 Jul 22 08:40	15°♂		retrograde	4380 May 29 06:40	13°♂25'56	
evening set	4374 Jul 27 02:00	16°♂03'51		desc. node	4380 Jun 14 12:08	13°♂01'24	
				opposition	4380 Jul 29 03:10	8°♂33'07	0°-5'-29
conjunction	4374 Aug 09 19:06	19°♂10'30	0°14'35	min. Earth dist.	4380 Jul 30 15:52	8°♂21'22	4.24355 AU
minimum elong	4374 Aug 09 19:05	19°♂10'29	0°14'34	direct	4380 Sep 28 17:38	3°♂34'52	
behind sun begin	4374 Aug 09 15:47	19°♂08'37			4380 Dec 31 08:01	15°♂	
behind sun end	4374 Aug 09 22:24	19°♂12'22		evening set	4381 Feb 01 04:44	22°♂03'46	
max. Earth dist.	4374 Aug 11 21:59	19°♂39'24	6.18340 AU	max. Earth dist.	4381 Feb 12 01:30	24°♂34'56	6.16452 AU
morning rise	4374 Aug 23 12:09	22°♂16'49					
	4374 Sep 28 07:08	0°♂		conjunction	4381 Feb 13 22:15	25°♂00'59	0°-20'-21
retrograde	4374 Dec 27 02:35	10°♂43'37		minimum elong	4381 Feb 13 22:14	25°♂00'58	0°20'21
opposition	4375 Feb 24 23:05	5°♂41'24	0°44'27	morning rise	4381 Feb 26 16:05	27°♂58'37	
min. Earth dist.	4375 Feb 23 21:03	5°♂50'08	4.26157 AU		4381 Mar 07 11:13	0°♂	
direct	4375 Apr 25 23:46	0°♂40'10		retrograde	4381 Jul 03 22:52	16°♂59'41	
evening set	4375 Aug 30 14:50	18°♂49'07		opposition	4381 Sep 02 10:50	12°♂04'40	0°-53'-7
				min. Earth dist.	4381 Sep 03 10:27	11°♂57'00	4.08614 AU
conjunction	4375 Sep 13 03:10	21°♂47'14	0°43'15	direct	4381 Nov 01 15:36	7°♂08'50	
minimum elong	4375 Sep 13 03:08	21°♂47'13	0°43'16	evening set	4382 Mar 07 05:21	26°♂22'56	
max. Earth dist.	4375 Sep 14 04:56	22°♂01'25	6.33475 AU	max. Earth dist.	4382 Mar 19 08:07	29°♂16'56	6.01779 AU
morning rise	4375 Sep 26 14:05	24°♂44'23					
	4375 Oct 21 07:33	0°♂		conjunction	4382 Mar 20 02:38	29°♂28'02	0°-48'00
retrograde	4376 Jan 27 02:38	12°♂09'19		minimum elong	4382 Mar 20 02:37	29°♂28'01	0°48'01
opposition	4376 Mar 27 06:52	7°♂10'41	1°16'28		4382 Mar 22 07:53	0°♂	
min. Earth dist.	4376 Mar 26 23:09	7°♂13'13	4.39574 AU	morning rise	4382 Apr 02 01:26	2°♂34'15	
direct	4376 May 27 16:27	2°♂08'20		retrograde	4382 Aug 10 19:19	22°♂45'31	
evening set	4376 Oct 01 02:32	19°♂45'08		opposition	4382 Oct 09 20:05	17°♂47'10	-1°-24'-30
				min. Earth dist.	4382 Oct 09 21:24	17°♂46'44	3.96467 AU
conjunction	4376 Oct 14 08:19	22°♂36'15	0°58'08	direct	4382 Dec 07 14:07	12°♂53'11	
minimum elong	4376 Oct 14 08:18	22°♂36'14	0°58'08		4383 Apr 01 06:20	0°♂	
max. Earth dist.	4376 Oct 14 05:52	22°♂34'55	6.44167 AU	evening set	4383 Apr 12 11:05	2°♂41'14	
morning rise	4376 Oct 27 11:35	25°♂26'04					
	4376 Nov 18 05:56	0°♂		conjunction	4383 Apr 25 15:00	5°♂53'18	0°-58'-40
retrograde	4377 Feb 25 00:14	12°♂13'42		minimum elong	4383 Apr 25 15:00	5°♂53'18	0°58'42
opposition	4377 Apr 26 14:06	7°♂18'25	1°26'09	max. Earth dist.	4383 Apr 26 06:17	6°♂02'37	5.93307 AU
min. Earth dist.	4377 Apr 27 00:43	7°♂14'59	4.46971 AU	morning rise	4383 May 08 21:53	9°♂07'00	
direct	4377 Jun 27 22:23	2°♂15'59			4383 Jun 02 19:58	15°♂	
	4377 Oct 09 22:26	15°♂		retrograde	4383 Sep 18 09:27	29°♂55'36	
evening set	4377 Nov 01 02:50	19°♂37'49		min. Earth dist.	4383 Nov 16 02:39	25°♂01'10	3.92776 AU
max. Earth dist.	4377 Nov 12 21:20	22°♂09'28	6.47701 AU	opposition	4383 Nov 17 01:26	24°♂53'29	-1°-23'-9

direct	4384 Jan 13 22:47	19°♄59'16		max. Earth dist.	4389 Nov 16 22:06	26°♄21'48	6.47465 AU
	4384 Apr 05 19:13	0°♄					
evening set	4384 May 19 03:38	9°♄52'42		conjunction	4389 Nov 18 07:15	26°♄39'40	0°55'25
				minimum elong	4389 Nov 18 07:16	26°♄39'41	0°55'25
conjunction	4384 Jun 01 15:38	13°♄07'55	0°-46'-5	morning rise	4389 Dec 01 03:28	29°♄25'36	
minimum elong	4384 Jun 01 15:40	13°♄07'56	0°46'06		4389 Dec 03 19:45	0°♄	
max. Earth dist.	4384 Jun 03 14:40	13°♄36'17	5.94728 AU	retrograde	4390 Mar 31 06:45	16°♄06'41	
morning rise	4384 Jun 15 06:25	16°♄24'29		opposition	4390 May 31 03:27	11°♄13'58	1°09'43
	4384 Aug 17 00:06	0°♄		min. Earth dist.	4390 Jun 01 08:55	11°♄04'33	4.45630 AU
retrograde	4384 Oct 24 21:40	6°♄55'07		direct	4390 Aug 01 21:46	6°♄12'23	
min. Earth dist.	4384 Dec 21 22:21	2°♄02'34	3.99173 AU	evening set	4390 Dec 05 17:38	23°♄41'32	
opposition	4384 Dec 23 09:47	1°♄50'29	0°-48'-8	max. Earth dist.	4390 Dec 16 11:26	26°♄02'22	6.41757 AU
	4385 Jan 06 06:40	30°♄					
direct	4385 Feb 19 09:58	26°♄54'01		conjunction	4390 Dec 18 12:24	26°♄29'14	0°37'10
	4385 Apr 04 05:45	0°♄		minimum elong	4390 Dec 18 12:26	26°♄29'14	0°37'11
evening set	4385 Jun 25 19:40	16°♄21'20		morning rise	4390 Dec 31 05:01	29°♄16'04	
					4391 Jan 03 13:46	0°♄	
conjunction	4385 Jul 09 12:48	19°♄33'54	0°-15'-39	retrograde	4391 May 01 16:41	16°♄23'28	
minimum elong	4385 Jul 09 12:49	19°♄33'54	0°15'39	opposition	4391 Jul 01 14:51	11°♄31'24	0°34'42
behind sun begin	4385 Jul 09 11:37	19°♄33'12		min. Earth dist.	4391 Jul 03 05:19	11°♄19'09	4.36307 AU
behind sun end	4385 Jul 09 14:01	19°♄34'36		direct	4391 Sep 02 01:21	6°♄31'20	
max. Earth dist.	4385 Jul 12 00:27	20°♄08'49	6.05413 AU	evening set	4392 Jan 05 14:33	24°♄26'57	
morning rise	4385 Jul 23 07:27	22°♄46'57		max. Earth dist.	4392 Jan 16 01:37	26°♄48'15	6.29486 AU
	4385 Aug 24 12:58	0°♄					
retrograde	4385 Nov 28 23:47	12°♄15'50		conjunction	4392 Jan 18 07:32	27°♄18'43	0°08'05
asc. node	4386 Jan 02 10:37	10°♄21'04		minimum elong	4392 Jan 18 07:32	27°♄18'43	0°08'04
min. Earth dist.	4386 Jan 26 02:56	7°♄23'34	4.12870 AU	behind sun begin	4392 Jan 18 00:25	27°♄14'43	
opposition	4386 Jan 27 14:37	7°♄11'27	0°03'18	behind sun end	4392 Jan 18 14:39	27°♄22'42	
direct	4386 Mar 27 12:27	2°♄12'06		morning rise	4392 Jan 30 23:39	0°♄10'15	
	4386 Jul 04 23:11	15°♄			4392 Jan 30 05:25	0°♄	
evening set	4386 Aug 01 02:16	20°♄56'34			4392 Apr 17 19:37	15°♄	
				desc. node	4392 Apr 24 01:16	15°♄46'00	
conjunction	4386 Aug 14 18:44	24°♄01'51	0°19'13	retrograde	4392 Jun 03 05:05	18°♄11'21	
minimum elong	4386 Aug 14 18:43	24°♄01'51	0°19'13		4392 Jul 20 11:35	15°♄	
max. Earth dist.	4386 Aug 16 17:39	24°♄28'21	6.20871 AU	opposition	4392 Aug 02 23:54	13°♄18'19	0°-12'-29
morning rise	4386 Aug 28 11:11	27°♄06'45		min. Earth dist.	4392 Aug 04 11:15	13°♄06'58	4.21789 AU
	4386 Sep 10 12:08	0°♄		direct	4392 Oct 03 09:23	8°♄20'24	
retrograde	4386 Dec 31 13:48	15°♄22'41			4392 Dec 11 02:47	15°♄	
opposition	4387 Mar 01 11:09	10°♄20'54	0°50'06	evening set	4393 Feb 05 21:40	26°♄56'56	
min. Earth dist.	4387 Feb 28 12:09	10°♄28'37	4.28571 AU	max. Earth dist.	4393 Feb 16 23:06	29°♄31'39	6.13914 AU
direct	4387 Apr 30 17:53	5°♄19'24					
evening set	4387 Sep 04 06:40	23°♄21'59		conjunction	4393 Feb 18 15:43	29°♄55'24	0°-24'-51
				minimum elong	4393 Feb 18 15:41	29°♄55'24	0°24'52
conjunction	4387 Sep 17 18:15	26°♄18'54	0°46'14		4393 Feb 18 23:34	0°♄	
minimum elong	4387 Sep 17 18:14	26°♄18'53	0°46'14	morning rise	4393 Mar 03 09:58	2°♄54'20	
max. Earth dist.	4387 Sep 18 17:12	26°♄31'28	6.35583 AU	retrograde	4393 Jul 09 06:36	22°♄07'04	
morning rise	4387 Oct 01 03:57	29°♄14'42		opposition	4393 Sep 07 16:27	17°♄11'42	0°-59'-1
	4387 Oct 04 15:30	0°♄		min. Earth dist.	4393 Sep 08 13:22	17°♄04'54	4.06343 AU
retrograde	4388 Jan 31 06:42	16°♄32'01		direct	4393 Nov 06 15:34	12°♄16'18	
opposition	4388 Mar 31 13:10	11°♄33'54	1°19'08		4394 Mar 05 11:51	0°♄	
min. Earth dist.	4388 Mar 31 07:25	11°♄35'47	4.41237 AU	evening set	4394 Mar 12 07:03	1°♄37'03	
direct	4388 Jun 01 01:44	6°♄31'30					
evening set	4388 Oct 05 11:43	24°♄04'33		conjunction	4394 Mar 25 04:58	4°♄43'17	0°-50'-47
				minimum elong	4394 Mar 25 04:57	4°♄43'16	0°50'47
conjunction	4388 Oct 18 16:27	26°♄54'50	0°58'53	max. Earth dist.	4394 Mar 24 14:17	4°♄34'26	5.99981 AU
minimum elong	4388 Oct 18 16:26	26°♄54'50	0°58'54	morning rise	4394 Apr 07 04:56	7°♄50'47	
max. Earth dist.	4388 Oct 18 08:38	26°♄50'38	6.45252 AU	retrograde	4394 Aug 16 06:51	28°♄10'17	
morning rise	4388 Oct 31 18:48	29°♄43'52		opposition	4394 Oct 15 07:07	23°♄11'21	-1°-26'-30
	4388 Nov 02 00:58	0°♄		min. Earth dist.	4394 Oct 15 03:38	23°♄12'30	3.95362 AU
retrograde	4389 Jan 29 03:57	15°♄		direct	4394 Dec 12 20:56	18°♄17'28	
	4389 Mar 01 05:00	16°♄28'25			4395 Mar 13 20:31	0°♄	
opposition	4389 Apr 01 03:59	15°♄		evening set	4395 Apr 17 19:09	8°♄08'00	
	4389 Apr 30 18:44	11°♄33'36	1°25'37				
min. Earth dist.	4389 May 01 09:10	11°♄28'56	4.47421 AU	conjunction	4395 May 01 00:19	11°♄20'46	0°-58'-16
direct	4389 Jul 02 06:21	6°♄31'13		minimum elong	4395 May 01 00:19	11°♄20'46	0°58'18
	4389 Sep 22 03:03	15°♄		max. Earth dist.	4395 May 01 22:16	11°♄34'08	5.93001 AU
evening set	4389 Nov 05 08:24	23°♄52'33		morning rise	4395 May 14 08:14	14°♄35'06	

	4395 May 16 01:30	15°♄		opposition	4401 May 05 00:06	15°♍50'46	1°24'39
	4395 Jul 25 17:29	0°♂		min. Earth dist.	4401 May 05 16:17	15°♍45'32	4.47525 AU
retrograde	4395 Sep 23 20:47	5°♂23'53			4401 May 11 14:14	15°♍♍	
min. Earth dist.	4395 Nov 21 10:56	0°♂29'36	3.93300 AU	direct	4401 Jul 06 12:10	10°♍48'26	
opposition	4395 Nov 22 11:44	0°♂21'12	-1°-19'-54		4401 Aug 30 23:05	15°♍	
	4395 Nov 25 02:29	30°♄♄		evening set	4401 Nov 09 15:14	28°♍10'13	
direct	4396 Jan 19 09:05	25°♄26'45			4401 Nov 18 03:22	0°♄	
	4396 Mar 12 18:43	0°♂		max. Earth dist.	4401 Nov 21 00:53	0°♄37'33	6.46964 AU
evening set	4396 May 24 13:06	15°♂17'06					
				conjunction	4401 Nov 22 13:20	0°♄57'15	0°53'39
conjunction	4396 Jun 07 02:03	18°♂32'08	0°-42'-32	minimum elong	4401 Nov 22 13:21	0°♄57'16	0°53'39
minimum elong	4396 Jun 07 02:05	18°♂32'10	0°42'33	morning rise	4401 Dec 05 08:58	3°♄43'09	
max. Earth dist.	4396 Jun 09 04:59	19°♂02'45	5.95998 AU	retrograde	4402 Apr 04 16:03	20°♄26'41	
morning rise	4396 Jun 20 17:40	21°♂48'27		opposition	4402 Jun 04 11:58	15°♄34'12	1°05'47
	4396 Jul 26 13:17	0°♄		min. Earth dist.	4402 Jun 05 20:09	15°♄23'55	4.44551 AU
retrograde	4396 Oct 30 00:23	12°♄11'07		direct	4402 Aug 06 06:50	10°♄32'46	
min. Earth dist.	4396 Dec 27 00:03	7°♄18'55	4.01039 AU	evening set	4402 Dec 10 01:09	28°♄05'14	
opposition	4396 Dec 28 12:56	7°♄06'22	0°-41'-15		4402 Dec 18 18:34	0°♄	
direct	4397 Feb 24 14:57	2°♄09'29		max. Earth dist.	4402 Dec 20 16:19	0°♄25'10	6.40174 AU
evening set	4397 Jul 01 01:17	21°♄30'15					
				conjunction	4402 Dec 22 19:34	0°♄53'23	0°33'33
conjunction	4397 Jul 14 18:28	24°♄41'48	0°-10'-39	minimum elong	4402 Dec 22 19:36	0°♄53'24	0°33'33
minimum elong	4397 Jul 14 18:29	24°♄41'49	0°10'40	morning rise	4403 Jan 04 12:03	3°♄40'48	
behind sun begin	4397 Jul 14 12:05	24°♄38'06		retrograde	4403 May 06 07:15	20°♄54'52	
behind sun end	4397 Jul 15 00:52	24°♄45'31		opposition	4403 Jul 06 05:19	16°♄02'46	0°28'29
max. Earth dist.	4397 Jul 17 04:05	25°♄15'22	6.07675 AU	min. Earth dist.	4403 Jul 07 19:19	15°♄50'38	4.34325 AU
morning rise	4397 Jul 28 13:12	27°♄53'47		direct	4403 Sep 06 12:07	11°♄02'59	
	4397 Aug 06 17:29	0°♄		evening set	4404 Jan 10 02:18	29°♄04'18	
	4397 Oct 27 09:42	15°♄			4404 Jan 14 05:06	0°♄	
asc. node	4397 Nov 11 18:08	16°♄24'24		max. Earth dist.	4404 Jan 20 15:55	1°♄27'43	6.27283 AU
retrograde	4397 Dec 03 16:42	17°♄11'27					
	4398 Jan 09 18:06	15°♄♄		conjunction	4404 Jan 22 19:22	1°♄56'56	0°03'24
min. Earth dist.	4398 Jan 30 22:45	12°♄18'49	4.15286 AU	minimum elong	4404 Jan 22 19:23	1°♄56'56	0°03'25
opposition	4398 Feb 01 08:44	12°♄07'16	0°10'36	behind sun begin	4404 Jan 22 11:28	1°♄52'28	
direct	4398 Apr 01 11:42	7°♄07'30		behind sun end	4404 Jan 23 03:18	2°♄01'25	
	4398 Jun 15 10:22	15°♄		morning rise	4404 Feb 04 11:30	4°♄49'25	
evening set	4398 Aug 06 00:24	25°♄45'01		desc. node	4404 Mar 02 21:46	10°♄50'39	
					4404 Mar 23 19:00	15°♄	
conjunction	4398 Aug 19 16:31	28°♄49'03	0°23'43	retrograde	4404 Jun 08 05:13	23°♄00'10	
minimum elong	4398 Aug 19 16:30	28°♄49'02	0°23'43	opposition	4404 Aug 07 22:21	18°♄06'58	0°-19'-33
max. Earth dist.	4398 Aug 21 13:37	29°♄14'24	6.23255 AU	min. Earth dist.	4404 Aug 09 08:38	17°♄55'57	4.19533 AU
	4398 Aug 24 22:49	0°♄			4404 Sep 03 04:24	15°♄	
morning rise	4398 Sep 02 08:00	1°♄52'31		direct	4404 Oct 08 03:38	13°♄09'30	
retrograde	4399 Jan 04 23:14	19°♄58'31			4404 Nov 11 19:08	15°♄	
opposition	4399 Mar 05 21:46	14°♄57'15	0°55'26		4405 Feb 02 13:51	0°♄	
min. Earth dist.	4399 Mar 05 00:43	15°♄04'16	4.30730 AU	evening set	4405 Feb 10 16:06	1°♄52'25	
direct	4399 May 05 08:23	9°♄55'34		max. Earth dist.	4405 Feb 21 19:54	4°♄29'18	6.11811 AU
evening set	4399 Sep 08 21:26	27°♄52'47					
	4399 Sep 18 15:01	0°♄		conjunction	4405 Feb 23 10:22	4°♄51'55	0°-29'-15
				minimum elong	4405 Feb 23 10:21	4°♄51'54	0°29'16
conjunction	4399 Sep 22 07:55	0°♄48'33	0°48'57	morning rise	4405 Mar 08 05:22	7°♄52'02	
minimum elong	4399 Sep 22 07:53	0°♄48'32	0°48'56	retrograde	4405 Jul 14 12:19	27°♄14'38	
max. Earth dist.	4399 Sep 23 00:58	0°♄57'52	6.37346 AU	opposition	4405 Sep 12 22:14	22°♄18'48	-1°-4'-30
morning rise	4399 Oct 05 16:43	3°♄43'14		min. Earth dist.	4405 Sep 13 14:54	22°♄13'21	4.04603 AU
retrograde	4400 Feb 04 12:38	20°♄54'18		direct	4405 Nov 11 15:57	17°♄23'44	
opposition	4400 Apr 04 19:32	15°♄56'39	1°21'25		4406 Feb 15 22:58	0°♄	
min. Earth dist.	4400 Apr 04 17:30	15°♄57'19	4.42513 AU	evening set	4406 Mar 17 08:14	6°♄49'04	
direct	4400 Jun 05 12:30	10°♄54'09					
evening set	4400 Oct 09 20:55	28°♄24'35		conjunction	4406 Mar 30 07:03	9°♄56'13	0°-53'-9
	4400 Oct 17 06:55	0°♍		minimum elong	4406 Mar 30 07:01	9°♄56'12	0°53'10
				max. Earth dist.	4406 Mar 29 22:54	9°♄51'18	5.98777 AU
conjunction	4400 Oct 23 00:54	1°♍14'16	0°59'21	morning rise	4406 Apr 12 07:48	13°♄04'39	
minimum elong	4400 Oct 23 00:54	1°♍14'16	0°59'21		4406 Jul 04 20:14	0°♄	
max. Earth dist.	4400 Oct 22 14:00	1°♍08'24	6.45950 AU	retrograde	4406 Aug 21 18:26	3°♄29'51	
morning rise	4400 Nov 05 02:10	4°♍02'39			4406 Oct 09 06:28	30°♄♄	
	4400 Dec 31 09:05	15°♍		opposition	4406 Oct 20 16:18	28°♄30'22	-1°-27'-44
retrograde	4401 Mar 05 08:31	20°♍45'13		min. Earth dist.	4406 Oct 20 10:10	28°♄32'25	3.94839 AU

direct	4406 Dec 18 04:01	23°♈36'34		conjunction	4412 Oct 27 08:03	5°♌32'18	0°59'28
	4407 Feb 20 13:52	0°♌		minimum elong	4412 Oct 27 08:03	5°♌32'18	0°59'27
evening set	4407 Apr 23 00:59	13°♌27'28		max. Earth dist.	4412 Oct 26 15:59	5°♌23'39	6.46279 AU
	4407 Apr 29 09:38	15°♌		morning rise	4412 Nov 09 08:38	8°♌20'17	
					4412 Dec 11 17:10	15°♌	
conjunction	4407 May 06 07:09	16°♌40'38	0°-57'-23	retrograde	4413 Mar 09 14:46	25°♌02'10	
minimum elong	4407 May 06 07:10	16°♌40'38	0°57'24	opposition	4413 May 09 05:45	20°♌08'04	1°23'14
max. Earth dist.	4407 May 07 09:52	16°♌56'52	5.93195 AU	min. Earth dist.	4413 May 10 01:02	20°♌01'51	4.47332 AU
morning rise	4407 May 19 16:14	19°♌55'23		direct	4413 Jul 10 20:00	15°♌05'50	
	4407 Jul 02 19:26	0°♐			4413 Nov 02 05:35	0°♐	
retrograde	4407 Sep 29 02:38	10°♐42'01		evening set	4413 Nov 13 21:34	2°♐28'43	
opposition	4407 Nov 27 17:40	5°♐38'58	-1°-16'-3	max. Earth dist.	4413 Nov 25 05:11	4°♐55'14	6.46265 AU
min. Earth dist.	4407 Nov 26 13:58	5°♐48'20	3.94213 AU				
direct	4408 Jan 24 13:33	0°♐44'18		conjunction	4413 Nov 26 19:12	5°♐15'48	0°51'34
evening set	4408 May 29 18:55	20°♐30'38		minimum elong	4413 Nov 26 19:13	5°♐15'49	0°51'35
				morning rise	4413 Dec 09 14:10	8°♐01'45	
conjunction	4408 Jun 12 08:33	23°♐45'19	0°-38'-45	retrograde	4414 Apr 08 23:36	24°♐48'20	
minimum elong	4408 Jun 12 08:35	23°♐45'20	0°38'47	opposition	4414 Jun 08 20:48	19°♐55'57	1°01'27
max. Earth dist.	4408 Jun 14 12:05	24°♐16'10	5.97513 AU	min. Earth dist.	4414 Jun 10 05:08	19°♐45'38	4.43404 AU
morning rise	4408 Jun 26 00:55	27°♐01'12		direct	4414 Aug 10 13:43	14°♐54'45	
	4408 Jul 08 17:29	0°♑			4414 Dec 02 19:06	0°♑	
retrograde	4408 Nov 03 22:05	17°♑15'22		evening set	4414 Dec 14 08:51	2°♑30'26	
min. Earth dist.	4408 Dec 31 22:34	12°♑23'06	4.02967 AU	max. Earth dist.	4414 Dec 24 23:32	4°♑50'39	6.38663 AU
opposition	4409 Jan 02 11:21	12°♑10'33	0°-34'-20				
direct	4409 Mar 01 16:48	7°♑13'15		conjunction	4414 Dec 27 02:52	5°♑19'02	0°29'44
evening set	4409 Jul 06 02:15	26°♑27'47		minimum elong	4414 Dec 27 02:54	5°♑19'03	0°29'44
				morning rise	4415 Jan 08 19:07	8°♑06'58	
conjunction	4409 Jul 19 19:44	29°♑38'26	0°-5'-45	retrograde	4415 May 10 23:01	25°♑27'21	
minimum elong	4409 Jul 19 19:45	29°♑38'26	0°05'47	opposition	4415 Jul 10 20:03	20°♑35'09	0°22'04
behind sun begin	4409 Jul 19 11:45	29°♑33'49		min. Earth dist.	4415 Jul 12 10:46	20°♑22'48	4.32522 AU
behind sun end	4409 Jul 20 03:46	29°♑43'03		direct	4415 Sep 11 01:03	15°♑35'38	
	4409 Jul 21 08:58	0°♒			4415 Dec 28 22:39	0°♒	
max. Earth dist.	4409 Jul 22 05:13	0°♒11'44	6.09851 AU	desc. node	4416 Jan 11 07:14	2°♒57'33	
morning rise	4409 Aug 02 14:11	2°♒49'18		evening set	4416 Jan 14 13:33	3°♒41'42	
asc. node	4409 Sep 22 11:46	13°♒41'18		max. Earth dist.	4416 Jan 25 03:16	6°♒05'51	6.25311 AU
	4409 Sep 29 15:45	15°♒					
retrograde	4409 Dec 08 06:58	21°♒56'42		conjunction	4416 Jan 27 06:37	6°♒35'07	0°-1'-22
opposition	4410 Feb 05 22:56	16°♒52'55	0°17'33	minimum elong	4416 Jan 27 06:36	6°♒35'07	0°01'22
min. Earth dist.	4410 Feb 04 14:40	17°♒03'51	4.17484 AU	behind sun begin	4416 Jan 26 22:37	6°♒30'35	
	4410 Feb 20 05:34	15°♒		behind sun end	4416 Jan 27 14:35	6°♒39'39	
direct	4410 Apr 06 05:36	11°♒52'54		morning rise	4416 Feb 08 23:00	9°♒28'29	
	4410 May 21 10:01	15°♒			4416 Mar 04 22:13	15°♒	
	4410 Aug 08 22:43	0°♓		retrograde	4416 Jun 13 02:21	27°♒48'04	
evening set	4410 Aug 10 18:56	0°♓24'34		opposition	4416 Aug 12 20:06	22°♒54'29	0°-26'-27
				min. Earth dist.	4416 Aug 14 03:37	22°♒44'20	4.17519 AU
conjunction	4410 Aug 24 10:20	3°♓27'28	0°27'54	direct	4416 Oct 12 20:23	17°♒57'18	
minimum elong	4410 Aug 24 10:19	3°♓27'27	0°27'54		4417 Jan 16 10:49	0°♈	
max. Earth dist.	4410 Aug 26 02:38	3°♓50'00	6.25291 AU	evening set	4417 Feb 15 09:10	6°♈45'39	
morning rise	4410 Sep 07 01:13	6°♓29'45		max. Earth dist.	4417 Feb 26 17:50	9°♈26'00	6.09915 AU
retrograde	4411 Jan 09 05:47	24°♓27'33					
min. Earth dist.	4411 Mar 09 11:19	19°♓32'54	4.32467 AU	conjunction	4417 Feb 28 03:53	9°♈46'06	0°-33'-24
opposition	4411 Mar 10 05:39	19°♓26'47	1°00'16	minimum elong	4417 Feb 28 03:51	9°♈46'05	0°33'25
direct	4411 May 09 20:21	14°♓24'56		morning rise	4417 Mar 12 23:19	12°♈47'15	
	4411 Sep 02 15:45	0°♉			4417 Jun 10 21:39	0°♉	
evening set	4411 Sep 13 09:43	2°♉18'26		retrograde	4417 Jul 19 18:57	2°♉19'01	
					4417 Aug 27 21:47	30°♉	
conjunction	4411 Sep 26 19:30	5°♉13'21	0°51'18	opposition	4417 Sep 18 02:31	27°♉22'42	-1°-9'-27
minimum elong	4411 Sep 26 19:28	5°♉13'20	0°51'19	min. Earth dist.	4417 Sep 18 17:16	27°♉17'53	4.02985 AU
max. Earth dist.	4411 Sep 27 09:24	5°♉20'55	6.38677 AU	direct	4417 Nov 16 16:59	22°♉27'51	
morning rise	4411 Oct 10 03:08	8°♉07'05			4418 Jan 27 04:20	0°♉	
retrograde	4412 Feb 08 16:30	25°♉13'30		evening set	4418 Mar 22 08:05	11°♉57'28	
opposition	4412 Apr 09 00:29	20°♉16'24	1°23'12				
min. Earth dist.	4412 Apr 09 00:44	20°♉16'20	4.43375 AU	conjunction	4418 Apr 04 07:42	15°♉05'32	0°-55'-6
direct	4412 Jun 09 19:49	15°♉13'58		minimum elong	4418 Apr 04 07:41	15°♉05'31	0°55'07
	4412 Oct 01 08:19	0°♊		max. Earth dist.	4418 Apr 04 03:25	15°♉02'56	5.97579 AU
evening set	4412 Oct 14 05:03	2°♊43'05		morning rise	4418 Apr 17 09:34	18°♉14'59	
					4418 Jun 09 01:34	0°♊	

retrograde	4418 Aug 27 01:55	8°♄45'39		evening set	4424 Oct 18 14:24	7°♍04'28	
opposition	4418 Oct 25 23:20	3°♄45'38	-1°-28'-17				
min. Earth dist.	4418 Oct 25 13:26	3°♄48'56	3.94223 AU	conjunction	4424 Oct 31 16:38	9°♍53'06	0°59'18
	4418 Nov 27 06:10	30°♄		minimum elong	4424 Oct 31 16:38	9°♍53'06	0°59'18
direct	4418 Dec 23 06:44	28°♄51'49		max. Earth dist.	4424 Oct 30 23:14	9°♍43'44	6.46976 AU
	4419 Jan 18 06:01	0°♄		morning rise	4424 Nov 13 16:07	12°♍40'25	
	4419 Apr 12 14:42	15°♄			4424 Nov 24 15:37	15°♍	
evening set	4419 Apr 28 05:51	18°♄43'50		retrograde	4425 Mar 13 19:05	29°♍20'20	
				opposition	4425 May 13 12:11	24°♍26'36	1°21'25
conjunction	4419 May 11 13:03	21°♄57'29	0°-56'-4	min. Earth dist.	4425 May 14 08:39	24°♍20'01	4.47629 AU
minimum elong	4419 May 11 13:04	21°♄57'30	0°56'05	direct	4425 Jul 15 03:54	19°♍24'34	
max. Earth dist.	4419 May 12 19:02	22°♄15'43	5.93202 AU		4425 Oct 16 06:57	0°♄	
morning rise	4419 May 24 23:19	25°♄12'45		evening set	4425 Nov 18 04:01	6°♄46'43	
	4419 Jun 14 04:34	0°♄		max. Earth dist.	4425 Nov 29 07:48	9°♄11'21	6.46140 AU
retrograde	4419 Oct 04 07:50	15°♄58'07					
opposition	4419 Dec 02 22:38	10°♄54'38	-1°-11'-39	conjunction	4425 Dec 01 00:46	9°♄33'33	0°49'18
min. Earth dist.	4419 Dec 01 17:15	11°♄04'36	3.94838 AU	minimum elong	4425 Dec 01 00:48	9°♄33'34	0°49'18
direct	4420 Jan 29 19:22	5°♄59'37		morning rise	4425 Dec 13 19:16	12°♄19'22	
evening set	4420 Jun 04 00:27	25°♄43'12		retrograde	4426 Apr 13 07:56	29°♄07'15	
				opposition	4426 Jun 13 05:12	24°♄14'59	0°56'55
conjunction	4420 Jun 17 15:06	28°♄57'45	0°-34'-41	min. Earth dist.	4426 Jun 14 15:28	24°♄04'03	4.42850 AU
minimum elong	4420 Jun 17 15:07	28°♄57'46	0°34'42	direct	4426 Aug 14 22:57	19°♄13'59	
max. Earth dist.	4420 Jun 19 21:50	29°♄30'24	5.98701 AU		4426 Nov 16 02:09	0°♄	
	4420 Jun 21 23:30	0°♄		evening set	4426 Dec 18 14:24	6°♄50'52	
morning rise	4420 Jul 01 08:00	2°♄13'19		max. Earth dist.	4426 Dec 29 04:12	9°♄10'55	6.37717 AU
retrograde	4420 Nov 08 21:48	22°♄20'14					
min. Earth dist.	4421 Jan 05 21:42	17°♄27'50	4.04568 AU	conjunction	4426 Dec 31 08:09	9°♄39'42	0°25'53
opposition	4421 Jan 07 10:09	17°♄15'25	0°-27'-9	minimum elong	4426 Dec 31 08:10	9°♄39'42	0°25'53
direct	4421 Mar 06 18:06	12°♄17'44		morning rise	4427 Jan 13 00:05	12°♄27'53	
	4421 Jul 04 19:58	0°♄		retrograde	4427 May 15 09:39	29°♄53'02	
evening set	4421 Jul 11 04:41	1°♄27'18		opposition	4427 Jul 15 08:13	25°♄00'42	0°15'46
				min. Earth dist.	4427 Jul 16 21:57	24°♄48'40	4.31222 AU
conjunction	4421 Jul 24 22:05	4°♄37'06	0°00'-44	direct	4427 Sep 15 09:57	20°♄01'30	
minimum elong	4421 Jul 24 22:07	4°♄37'06	0°00'46	desc. node	4427 Nov 23 04:31	26°♄31'29	
behind sun begin	4421 Jul 24 13:43	4°♄32'18			4427 Dec 11 21:42	0°♄	
behind sun end	4421 Jul 25 06:30	4°♄41'55		evening set	4428 Jan 18 21:38	8°♄10'52	
max. Earth dist.	4421 Jul 27 05:35	5°♄09'06	6.11707 AU	max. Earth dist.	4428 Jan 29 12:42	10°♄36'18	6.23756 AU
asc. node	4421 Aug 02 04:14	6°♄31'13					
morning rise	4421 Aug 07 16:34	7°♄47'04		conjunction	4428 Jan 31 14:36	11°♄04'52	0°-5'-51
	4421 Sep 09 10:44	15°♄		minimum elong	4428 Jan 31 14:35	11°♄04'52	0°05'51
retrograde	4421 Dec 12 20:44	26°♄45'14		behind sun begin	4428 Jan 31 06:58	11°♄00'32	
min. Earth dist.	4422 Feb 09 07:08	21°♄52'21	4.19421 AU	behind sun end	4428 Jan 31 22:13	11°♄09'13	
opposition	4422 Feb 10 14:27	21°♄41'45	0°24'28	morning rise	4428 Feb 13 07:06	13°♄58'56	
direct	4422 Apr 11 00:33	16°♄41'25			4428 Feb 17 18:45	15°♄	
	4422 Jul 22 23:11	0°♄			4428 May 08 16:23	0°♄	
evening set	4422 Aug 15 15:22	5°♄08'07		retrograde	4428 Jun 17 21:43	2°♄26'16	
					4428 Jul 28 12:28	30°♄	
conjunction	4422 Aug 29 06:17	8°♄09'58	0°31'59	opposition	4428 Aug 17 13:56	27°♄32'25	0°-32'-53
minimum elong	4422 Aug 29 06:15	8°♄09'57	0°31'59	min. Earth dist.	4428 Aug 18 21:18	27°♄22'19	4.15786 AU
max. Earth dist.	4422 Aug 30 19:49	8°♄30'53	6.27176 AU	direct	4428 Oct 17 11:33	22°♄35'31	
morning rise	4422 Sep 11 20:14	11°♄11'04			4428 Dec 28 15:57	0°♄	
retrograde	4423 Jan 13 15:43	29°♄01'04		evening set	4429 Feb 19 22:21	11°♄28'47	
opposition	4423 Mar 14 15:54	24°♄00'52	1°04'51	max. Earth dist.	4429 Mar 03 09:05	14°♄10'58	6.08155 AU
min. Earth dist.	4423 Mar 14 00:04	24°♄06'08	4.34167 AU				
direct	4423 May 14 11:07	18°♄58'59		conjunction	4429 Mar 04 17:31	14°♄30'10	0°-37'-8
	4423 Aug 16 06:59	0°♄		minimum elong	4429 Mar 04 17:29	14°♄30'09	0°37'09
evening set	4423 Sep 18 00:01	6°♄48'31		morning rise	4429 Mar 17 13:39	17°♄32'22	
					4429 May 14 10:56	0°♄	
conjunction	4423 Oct 01 08:47	9°♄42'30	0°53'26	retrograde	4429 Jul 24 19:23	7°♄13'03	
minimum elong	4423 Oct 01 08:46	9°♄42'29	0°53'27	opposition	4429 Sep 23 02:05	2°♄16'20	-1°-13'-43
max. Earth dist.	4423 Oct 01 18:29	9°♄47'46	6.40084 AU	min. Earth dist.	4429 Sep 23 13:44	2°♄12'31	4.01365 AU
morning rise	4423 Oct 14 15:32	12°♄35'17			4429 Oct 11 02:33	30°♄	
retrograde	4424 Feb 12 22:20	29°♄36'45		direct	4429 Nov 21 10:47	27°♄21'42	
opposition	4424 Apr 13 07:42	24°♄40'07	1°24'36		4430 Jan 01 01:31	0°♄	
min. Earth dist.	4424 Apr 13 10:10	24°♄39'19	4.44449 AU	evening set	4430 Mar 27 04:08	16°♄56'15	
direct	4424 Jun 14 06:22	19°♄37'44					
	4424 Sep 14 01:03	0°♄		conjunction	4430 Apr 09 04:38	20°♄05'21	0°-56'-34

minimum elong	4430 Apr 09 04:37	20° Υ 05'20	0°56'35	morning rise	4435 Oct 19 03:39	17° Ω 03'50	
max. Earth dist.	4430 Apr 09 03:37	20° Υ 04'44	5.96248 AU		4435 Dec 26 20:16	0° \mathbb{M}	
morning rise	4430 Apr 22 07:35	23° Υ 15'54		retrograde	4436 Feb 17 04:17	4° \mathbb{M} 00'04	
	4430 May 21 02:29	0° \mathcal{B}			4436 Apr 10 09:05	30° \mathbb{R} Ω	
retrograde	4430 Sep 01 06:35	13° \mathcal{B} 53'04		opposition	4436 Apr 17 14:48	29° Ω 03'50	1°25'29
opposition	4430 Oct 31 02:35	8° \mathcal{B} 52'32	-1°-28'-10	min. Earth dist.	4436 Apr 17 20:05	29° Ω 02'06	4.45482 AU
min. Earth dist.	4430 Oct 30 14:29	8° \mathcal{B} 56'36	3.93322 AU	direct	4436 Jun 18 17:48	24° Ω 01'22	
direct	4430 Dec 28 07:20	3° \mathcal{B} 58'40			4436 Aug 24 19:36	0° \mathbb{M}	
	4431 Mar 25 21:13	15° \mathcal{B}		evening set	4436 Oct 22 23:23	11° \mathbb{M} 25'38	
evening set	4431 May 03 07:54	23° \mathcal{B} 53'24		max. Earth dist.	4436 Nov 04 02:40	14° \mathbb{M} 01'53	6.47492 AU
conjunction	4431 May 16 16:28	27° \mathcal{B} 07'50	0°-54'-22	conjunction	4436 Nov 05 00:40	14° \mathbb{M} 13'43	0°58'47
minimum elong	4431 May 16 16:30	27° \mathcal{B} 07'51	0°54'23	minimum elong	4436 Nov 05 00:41	14° \mathbb{M} 13'43	0°58'47
max. Earth dist.	4431 May 18 03:21	27° \mathcal{B} 29'02	5.92840 AU		4436 Nov 08 14:44	15° \mathbb{M}	
	4431 May 28 12:21	0° \mathbb{I}		morning rise	4436 Nov 17 23:24	17° \mathbb{M} 00'31	
morning rise	4431 May 30 03:50	0° \mathbb{I} 23'49			4437 Jan 26 23:25	0° \mathcal{A}	
retrograde	4431 Oct 09 13:10	21° \mathbb{I} 09'25		retrograde	4437 Mar 18 00:52	3° \mathcal{A} 39'09	
min. Earth dist.	4431 Dec 06 18:31	16° \mathbb{I} 16'04	3.95065 AU		4437 May 08 00:36	30° \mathbb{R} \mathbb{M}	
opposition	4431 Dec 08 01:06	16° \mathbb{I} 05'41	-1°-6'-52	opposition	4437 May 17 19:07	28° \mathbb{M} 45'36	1°19'07
direct	4432 Feb 03 21:25	11° \mathbb{I} 10'23		min. Earth dist.	4437 May 18 17:59	28° \mathbb{M} 38'16	4.47592 AU
	4432 Jun 05 11:12	0° \mathcal{E}		direct	4437 Jul 19 12:29	23° \mathbb{M} 43'34	
evening set	4432 Jun 09 05:13	0° \mathcal{E} 53'10			4437 Sep 26 14:33	0° \mathcal{A}	
conjunction	4432 Jun 22 20:35	4° \mathcal{E} 07'43	0°-30'-28	evening set	4437 Nov 22 10:30	11° \mathcal{A} 06'00	
minimum elong	4432 Jun 22 20:37	4° \mathcal{E} 07'44	0°30'29	max. Earth dist.	4437 Dec 03 12:41	13° \mathcal{A} 29'58	6.45536 AU
max. Earth dist.	4432 Jun 25 04:09	4° \mathcal{E} 40'46	5.99488 AU	conjunction	4437 Dec 05 06:50	13° \mathcal{A} 52'52	0°46'41
morning rise	4432 Jul 06 14:23	7° \mathcal{E} 23'15		minimum elong	4437 Dec 05 06:52	13° \mathcal{A} 52'52	0°46'41
retrograde	4432 Nov 13 18:44	27° \mathcal{E} 24'20		morning rise	4437 Dec 18 00:37	16° \mathcal{A} 38'40	
min. Earth dist.	4433 Jan 10 18:27	22° \mathcal{E} 32'15	4.05823 AU		4438 Feb 27 18:01	0° \mathcal{E}	
opposition	4433 Jan 12 07:54	22° \mathcal{E} 19'29	0°-19'-57	retrograde	4438 Apr 17 16:07	3° \mathcal{E} 29'31	
direct	4433 Mar 11 17:04	17° \mathcal{E} 21'23			4438 Jun 06 15:40	30° \mathbb{R} \mathcal{A}	
asc. node	4433 Jun 12 09:22	28° \mathcal{E} 58'03		opposition	4438 Jun 17 14:58	28° \mathcal{A} 37'19	0°51'56
	4433 Jun 17 06:38	0° Ω		min. Earth dist.	4438 Jun 19 01:59	28° \mathcal{A} 26'10	4.41705 AU
evening set	4433 Jul 16 07:00	6° Ω 27'18		direct	4438 Aug 19 07:24	23° \mathcal{A} 36'31	
conjunction	4433 Jul 30 00:35	9° Ω 36'26	0°04'15		4438 Oct 27 11:55	0° \mathcal{E}	
minimum elong	4433 Jul 30 00:34	9° Ω 36'25	0°04'16	evening set	4438 Dec 22 22:17	11° \mathcal{E} 16'35	
behind sun begin	4433 Jul 29 16:20	9° Ω 31'43		max. Earth dist.	4439 Jan 02 10:06	13° \mathcal{E} 36'08	6.36101 AU
behind sun end	4433 Jul 30 08:48	9° Ω 41'08		conjunction	4439 Jan 04 15:37	14° \mathcal{E} 05'54	0°21'45
max. Earth dist.	4433 Aug 01 07:08	10° Ω 07'47	6.13331 AU	minimum elong	4439 Jan 04 15:38	14° \mathcal{E} 05'55	0°21'46
morning rise	4433 Aug 12 18:44	12° Ω 45'31		morning rise	4439 Jan 17 07:34	16° \mathcal{E} 54'43	
	4433 Aug 22 16:56	15° Ω			4439 Mar 25 12:50	0° \approx	
	4433 Nov 15 22:25	0° \mathbb{P}		retrograde	4439 May 20 02:52	4° \approx 26'59	
retrograde	4433 Dec 17 13:00	1° \mathbb{P} 35'09			4439 Jul 16 16:16	30° \mathbb{R} \mathcal{E}	
	4434 Jan 17 20:44	30° \mathbb{R} Ω		opposition	4439 Jul 20 00:07	29° \mathcal{E} 34'32	0°09'04
min. Earth dist.	4434 Feb 14 00:58	26° Ω 41'53	4.21228 AU	min. Earth dist.	4439 Jul 21 14:38	29° \mathcal{E} 22'13	4.29213 AU
opposition	4434 Feb 15 06:22	26° Ω 31'57	0°31'08	direct	4439 Sep 19 23:45	24° \mathcal{E} 35'32	
direct	4434 Apr 15 21:40	21° Ω 31'17		desc. node	4439 Oct 02 15:36	24° \mathcal{E} 50'26	
	4434 Jul 03 20:11	0° \mathbb{P}			4439 Nov 20 22:45	0° \approx	
evening set	4434 Aug 20 12:04	9° \mathbb{P} 53'03		evening set	4440 Jan 23 09:53	12° \approx 50'37	
conjunction	4434 Sep 03 02:18	12° \mathbb{P} 53'50	0°35'50		4440 Feb 01 19:48	15° \approx	
minimum elong	4434 Sep 03 02:17	12° \mathbb{P} 53'49	0°35'50	max. Earth dist.	4440 Feb 03 02:21	15° \approx 17'34	6.21516 AU
max. Earth dist.	4434 Sep 04 13:38	13° \mathbb{P} 13'25	6.29008 AU	conjunction	4440 Feb 05 03:07	15° \approx 45'36	0°-10'-31
morning rise	4434 Sep 16 15:24	15° \mathbb{P} 53'46		minimum elong	4440 Feb 05 03:06	15° \approx 45'36	0°10'32
	4434 Nov 29 23:38	0° Ω		behind sun begin	4440 Feb 04 20:49	15° \approx 42'00	
retrograde	4435 Jan 17 23:35	3° Ω 35'49		behind sun end	4440 Feb 05 09:22	15° \approx 49'11	
	4435 Mar 08 09:33	30° \mathbb{R} \mathbb{P}		morning rise	4440 Feb 17 19:54	18° \approx 40'43	
min. Earth dist.	4435 Mar 18 11:38	28° \mathbb{P} 40'48	4.35873 AU		4440 Apr 11 13:11	0° \mathcal{H}	
opposition	4435 Mar 19 02:11	28° \mathbb{P} 35'58	1°08'59	retrograde	4440 Jun 22 21:54	7° \mathcal{H} 18'18	
direct	4435 May 19 01:10	23° \mathbb{P} 33'52		opposition	4440 Aug 22 13:40	2° \mathcal{H} 24'08	0°-39'-32
	4435 Jul 27 01:26	0° Ω		min. Earth dist.	4440 Aug 23 18:30	2° \mathcal{H} 14'50	4.13490 AU
evening set	4435 Sep 22 14:15	11° Ω 19'06			4440 Sep 10 23:45	30° \mathbb{R} \approx	
conjunction	4435 Oct 05 22:04	14° Ω 12'05	0°55'14	direct	4440 Oct 22 05:18	27° \approx 27'35	
minimum elong	4435 Oct 05 22:03	14° Ω 12'04	0°55'14		4440 Dec 01 19:10	0° \mathcal{H}	
max. Earth dist.	4435 Oct 06 04:28	14° Ω 15'33	6.41514 AU	evening set	4441 Feb 24 18:03	16° \mathcal{H} 27'39	
				max. Earth dist.	4441 Mar 08 08:40	19° \mathcal{H} 12'56	6.06000 AU

conjunction	4441 Mar 09 13:42	19° Υ 30'12	0°-40'-52	minimum elong	4446 Sep 07 19:50	17° Υ 31'34	0°39'24
minimum elong	4441 Mar 09 13:40	19° Υ 30'11	0°40'53	max. Earth dist.	4446 Sep 09 02:22	17° Υ 48'26	6.31350 AU
morning rise	4441 Mar 22 10:39	22° Υ 33'42		morning rise	4446 Sep 21 07:58	20° Υ 30'06	
	4441 Apr 24 00:34	0° Υ			4446 Nov 06 14:44	0° Ω	
retrograde	4441 Jul 30 04:51	12° Υ 24'49		retrograde	4447 Jan 22 06:58	8° Ω 03'16	
opposition	4441 Sep 28 09:11	7° Υ 27'36	-1°-17'-44	opposition	4447 Mar 23 10:02	3° Ω 03'59	1°12'35
min. Earth dist.	4441 Sep 28 18:03	7° Υ 24'41	3.99560 AU	min. Earth dist.	4447 Mar 22 23:11	3° Ω 07'34	4.37865 AU
direct	4441 Nov 26 13:38	2° Υ 33'10			4447 Apr 17 11:11	30° Υ Υ	
evening set	4442 Apr 01 07:51	22° Υ 13'06		direct	4447 May 23 14:53	28° Υ 01'44	
					4447 Jun 29 03:43	0° Ω	
conjunction	4442 Apr 14 09:32	25° Υ 23'17	0°-57'-41	evening set	4447 Sep 27 01:00	15° Ω 42'08	
minimum elong	4442 Apr 14 09:32	25° Υ 23'17	0°57'42				
max. Earth dist.	4442 Apr 14 14:35	25° Υ 26'22	5.94985 AU	conjunction	4447 Oct 10 07:54	18° Ω 34'10	0°56'40
morning rise	4442 Apr 27 13:35	28° Υ 34'58		minimum elong	4447 Oct 10 07:53	18° Ω 34'09	0°56'39
	4442 May 03 11:05	0° Υ		max. Earth dist.	4447 Oct 10 10:17	18° Ω 35'26	6.42993 AU
	4442 Jul 15 13:15	15° Υ		morning rise	4447 Oct 23 12:24	21° Ω 24'55	
retrograde	4442 Sep 06 19:08	19° Υ 17'29			4447 Dec 04 21:37	0° Υ	
	4442 Oct 31 02:38	15° Υ		retrograde	4448 Feb 21 06:30	8° Υ 16'29	
opposition	4442 Nov 05 12:44	14° Υ 16'32	-1°-27'-16	opposition	4448 Apr 21 19:16	3° Υ 20'41	1°25'53
min. Earth dist.	4442 Nov 04 21:36	14° Υ 21'36	3.92790 AU	min. Earth dist.	4448 Apr 22 02:49	3° Υ 18'14	4.46374 AU
direct	4443 Jan 02 14:30	9° Υ 22'40			4448 May 20 02:28	30° Υ Ω	
	4443 Mar 03 11:34	15° Υ		direct	4448 Jun 23 00:25	28° Ω 18'13	
evening set	4443 May 08 17:02	29° Υ 18'23			4448 Jul 27 07:21	0° Υ	
	4443 May 11 13:55	0° Υ			4448 Oct 24 00:46	15° Υ	
				evening set	4448 Oct 27 05:33	15° Υ 40'51	
conjunction	4443 May 22 02:36	2° Υ 33'15	0°-52'-6	max. Earth dist.	4448 Nov 08 04:41	18° Υ 14'52	6.47728 AU
minimum elong	4443 May 22 02:38	2° Υ 33'16	0°52'08				
max. Earth dist.	4443 May 23 16:45	2° Υ 56'24	5.93087 AU	conjunction	4448 Nov 09 06:02	18° Υ 28'31	0°57'58
morning rise	4443 Jun 04 15:18	5° Υ 49'40		minimum elong	4448 Nov 09 06:03	18° Υ 28'31	0°57'58
retrograde	4443 Oct 14 19:20	26° Υ 32'11		morning rise	4448 Nov 22 03:53	21° Υ 14'55	
min. Earth dist.	4443 Dec 11 22:35	21° Υ 39'31	3.96092 AU		4449 Jan 04 16:20	0° Υ	
opposition	4443 Dec 13 08:04	21° Υ 28'08	-1°-1'-17	retrograde	4449 Mar 22 05:16	7° Υ 53'33	
direct	4444 Feb 09 04:18	16° Υ 32'32		opposition	4449 May 22 00:11	3° Υ 00'21	1°16'27
	4444 May 18 16:21	0° Υ		min. Earth dist.	4449 May 23 01:52	2° Υ 52'07	4.47159 AU
evening set	4444 Jun 14 13:42	6° Υ 11'12			4449 Jun 16 05:02	30° Υ Υ	
				direct	4449 Jul 23 18:59	27° Υ 58'27	
conjunction	4444 Jun 28 05:46	9° Υ 25'15	0°-25'-50		4449 Aug 30 11:34	0° Υ	
minimum elong	4444 Jun 28 05:48	9° Υ 25'16	0°25'52	evening set	4449 Nov 26 15:38	15° Υ 22'39	
max. Earth dist.	4444 Jun 30 15:17	9° Υ 59'19	6.01206 AU	max. Earth dist.	4449 Dec 07 13:00	17° Υ 44'28	6.44449 AU
morning rise	4444 Jul 11 23:53	12° Υ 40'07					
	4444 Oct 09 16:23	0° Υ		conjunction	4449 Dec 09 11:22	18° Υ 09'42	0°43'52
retrograde	4444 Nov 18 18:03	2° Υ 31'30		minimum elong	4449 Dec 09 11:23	18° Υ 09'43	0°43'52
	4444 Dec 28 14:56	30° Υ Υ		morning rise	4449 Dec 22 04:56	20° Υ 55'50	
min. Earth dist.	4445 Jan 15 18:42	27° Υ 39'09	4.08016 AU		4450 Feb 04 20:07	0° Υ	
opposition	4445 Jan 17 07:13	27° Υ 26'43	0°-12'-27	retrograde	4450 Apr 22 02:25	7° Υ 51'31	
direct	4445 Mar 16 21:11	22° Υ 28'14		opposition	4450 Jun 22 00:37	2° Υ 59'22	0°46'43
asc. node	4445 Apr 21 18:02	24° Υ 32'21		min. Earth dist.	4450 Jun 23 13:15	2° Υ 47'42	4.40022 AU
	4445 May 28 02:27	0° Υ			4450 Jul 17 04:52	30° Υ Υ	
evening set	4445 Jul 21 09:42	11° Υ 27'05		direct	4450 Aug 23 15:35	27° Υ 58'43	
					4450 Sep 30 00:03	0° Υ	
conjunction	4445 Aug 04 03:04	14° Υ 35'00	0°09'10	evening set	4450 Dec 27 05:57	15° Υ 43'49	
minimum elong	4445 Aug 04 03:03	14° Υ 35'00	0°09'09	max. Earth dist.	4451 Jan 06 18:20	18° Υ 04'19	6.33954 AU
behind sun begin	4445 Aug 03 20:02	14° Υ 31'00					
behind sun end	4445 Aug 04 10:05	14° Υ 38'59		conjunction	4451 Jan 08 23:21	18° Υ 33'57	0°17'30
	4445 Aug 05 22:51	15° Υ		minimum elong	4451 Jan 08 23:22	18° Υ 33'58	0°17'31
max. Earth dist.	4445 Aug 06 09:06	15° Υ 05'51	6.15802 AU	morning rise	4451 Jan 21 15:10	21° Υ 23'37	
morning rise	4445 Aug 17 20:43	17° Υ 42'44			4451 Mar 03 11:21	0° Υ	
	4445 Oct 16 15:43	0° Υ		retrograde	4451 May 24 20:26	9° Υ 05'02	
retrograde	4445 Dec 22 01:03	6° Υ 20'59		opposition	4451 Jul 24 17:27	4° Υ 12'28	0°02'17
opposition	4446 Feb 19 20:38	1° Υ 18'13	0°37'30	min. Earth dist.	4451 Jul 26 07:10	4° Υ 00'25	4.26738 AU
min. Earth dist.	4446 Feb 18 16:03	1° Υ 27'51	4.23738 AU	desc. node	4451 Aug 12 08:59	1° Υ 54'44	
	4446 Mar 01 16:01	30° Υ Υ			4451 Sep 02 02:22	30° Υ Υ	
direct	4446 Apr 20 15:58	26° Υ 17'18		direct	4451 Sep 24 12:19	29° Υ 13'50	
	4446 Jun 09 18:28	0° Υ			4451 Oct 16 21:58	0° Υ	
evening set	4446 Aug 25 06:33	14° Υ 32'10			4452 Jan 16 12:47	15° Υ	
				evening set	4452 Jan 28 00:11	17° Υ 36'14	
conjunction	4446 Sep 07 19:51	17° Υ 31'35	0°39'24	max. Earth dist.	4452 Feb 07 18:03	20° Υ 04'55	6.18916 AU

conjunction	4452 Feb 09 17:29	20° \approx 32'21	0°-15'-9	minimum elong	4457 Aug 09 03:26	19° Ω 28'26	0°13'57
minimum elong	4452 Feb 09 17:28	20° \approx 32'21	0°15'09	behind sun begin	4457 Aug 08 23:25	19° Ω 26'10	
behind sun begin	4452 Feb 09 14:28	20° \approx 30'37		behind sun end	4457 Aug 09 07:27	19° Ω 30'43	
behind sun end	4452 Feb 09 20:27	20° \approx 34'04		max. Earth dist.	4457 Aug 11 05:31	19° Ω 56'53	6.18269 AU
morning rise	4452 Feb 22 10:51	23° \approx 28'46		morning rise	4457 Aug 22 20:37	22° Ω 34'49	
	4452 Mar 22 16:10	0° \mathcal{H}			4457 Sep 26 03:56	0° \mathfrak{M}	
retrograde	4452 Jun 28 03:02	12° \mathcal{H} 18'04		retrograde	4457 Dec 26 13:17	11° \mathfrak{M} 02'20	
opposition	4452 Aug 27 16:14	7° \mathcal{H} 23'32	0°-46'-1	min. Earth dist.	4458 Feb 23 07:59	6° \mathfrak{M} 08'35	4.26086 AU
min. Earth dist.	4452 Aug 28 18:51	7° \mathcal{H} 14'54	4.10967 AU	opposition	4458 Feb 24 09:33	5° \mathfrak{M} 59'59	0°43'34
direct	4452 Oct 27 02:56	2° \mathcal{H} 27'18		direct	4458 Apr 25 10:49	0° \mathfrak{M} 58'46	
evening set	4453 Mar 01 16:44	21° \mathcal{H} 34'53		evening set	4458 Aug 29 23:25	19° \mathfrak{M} 07'29	
conjunction	4453 Mar 14 13:14	24° \mathcal{H} 38'44	0°-44'-20	conjunction	4458 Sep 12 12:01	22° \mathfrak{M} 05'43	0°42'43
minimum elong	4453 Mar 14 13:12	24° \mathcal{H} 38'43	0°44'21	minimum elong	4458 Sep 12 11:59	22° \mathfrak{M} 05'42	0°42'43
max. Earth dist.	4453 Mar 13 13:41	24° \mathcal{H} 24'40	6.03807 AU	max. Earth dist.	4458 Sep 13 15:45	22° \mathfrak{M} 20'59	6.33407 AU
morning rise	4453 Mar 27 10:58	27° \mathcal{H} 43'34		morning rise	4458 Sep 25 22:57	25° \mathfrak{M} 02'56	
	4453 Apr 06 02:17	0° \mathcal{Y}			4458 Oct 19 04:21	0° $\underline{\mathfrak{A}}$	
retrograde	4453 Aug 04 16:35	17° \mathcal{Y} 44'45		retrograde	4459 Jan 26 12:02	12° $\underline{\mathfrak{A}}$ 28'27	
opposition	4453 Oct 03 19:06	12° \mathcal{Y} 47'01	-1°-21'-9	opposition	4459 Mar 27 17:11	7° $\underline{\mathfrak{A}}$ 29'42	1°15'49
min. Earth dist.	4453 Oct 04 00:17	12° \mathcal{Y} 45'19	3.97949 AU	min. Earth dist.	4459 Mar 27 08:14	7° $\underline{\mathfrak{A}}$ 32'39	4.39507 AU
direct	4453 Dec 01 18:15	7° \mathcal{Y} 52'51		direct	4459 May 28 01:03	2° $\underline{\mathfrak{A}}$ 27'24	
evening set	4454 Apr 06 14:24	27° \mathcal{Y} 37'01		evening set	4459 Oct 01 11:44	20° $\underline{\mathfrak{A}}$ 04'11	
	4454 Apr 16 09:59	0° \mathcal{B}					
conjunction	4454 Apr 19 17:00	0° \mathcal{B} 48'06	0°-58'-19	conjunction	4459 Oct 14 17:33	22° $\underline{\mathfrak{A}}$ 55'22	0°57'48
minimum elong	4454 Apr 19 16:59	0° \mathcal{B} 48'06	0°58'19	minimum elong	4459 Oct 14 17:33	22° $\underline{\mathfrak{A}}$ 55'22	0°57'48
max. Earth dist.	4454 Apr 20 02:30	0° \mathcal{B} 53'53	5.94096 AU	max. Earth dist.	4459 Oct 14 14:30	22° $\underline{\mathfrak{A}}$ 53'43	6.44100 AU
morning rise	4454 May 02 22:25	4° \mathcal{B} 00'46		morning rise	4459 Oct 27 21:07	25° $\underline{\mathfrak{A}}$ 45'19	
	4454 Jun 20 10:18	15° \mathcal{B}			4459 Nov 17 01:39	0° \mathfrak{M}	
retrograde	4454 Sep 12 06:31	24° \mathcal{B} 46'26		retrograde	4460 Feb 25 12:04	12° \mathfrak{M} 33'27	
min. Earth dist.	4454 Nov 10 04:33	19° \mathcal{B} 51'26	3.92744 AU	opposition	4460 Apr 26 00:33	7° \mathfrak{M} 38'08	1°25'52
opposition	4454 Nov 11 00:04	19° \mathcal{B} 44'52	-1°-25'-34	min. Earth dist.	4460 Apr 26 11:54	7° \mathfrak{M} 34'27	4.46899 AU
	4454 Dec 29 14:58	15° \mathcal{R} \mathcal{B}		direct	4460 Jun 27 09:18	2° \mathfrak{M} 35'41	
direct	4455 Jan 07 23:36	14° \mathcal{B} 50'50		evening set	4460 Oct 07 16:34	15° \mathfrak{M}	
	4455 Jan 17 08:33	15° \mathcal{B}		max. Earth dist.	4460 Oct 31 12:28	19° \mathfrak{M} 57'42	
	4455 Apr 24 01:01	0° \mathcal{I}			4460 Nov 12 07:01	22° \mathfrak{M} 29'22	6.47620 AU
evening set	4455 May 14 02:57	4° \mathcal{I} 45'18		conjunction	4460 Nov 13 12:16	22° \mathfrak{M} 45'07	0°56'50
conjunction	4455 May 27 13:41	8° \mathcal{I} 00'18	0°-49'-23	minimum elong	4460 Nov 13 12:17	22° \mathfrak{M} 45'08	0°56'50
minimum elong	4455 May 27 13:43	8° \mathcal{I} 00'19	0°49'24	morning rise	4460 Nov 26 09:24	25° \mathfrak{M} 31'20	
max. Earth dist.	4455 May 29 08:47	8° \mathcal{I} 26'23	5.93873 AU		4460 Dec 17 18:05	0° \mathcal{Z}	
morning rise	4455 Jun 10 03:13	11° \mathcal{I} 16'44		retrograde	4461 Mar 26 11:18	12° \mathcal{Z} 11'05	
	4455 Sep 15 15:54	0° \mathfrak{E}		opposition	4461 May 26 07:11	7° \mathcal{Z} 18'07	1°13'22
retrograde	4455 Oct 20 01:48	1° \mathfrak{E} 53'33		min. Earth dist.	4461 May 27 10:22	7° \mathcal{Z} 09'24	4.46445 AU
	4455 Nov 23 06:27	30° \mathcal{R} \mathcal{I}		direct	4461 Jul 28 01:08	2° \mathcal{Z} 16'21	
min. Earth dist.	4455 Dec 17 04:04	27° \mathcal{I} 00'46	3.97589 AU	evening set	4461 Nov 30 22:18	19° \mathcal{Z} 43'01	
opposition	4455 Dec 18 14:08	26° \mathcal{I} 49'10	0°-55'-10	max. Earth dist.	4461 Dec 11 18:36	22° \mathcal{Z} 04'41	6.43181 AU
direct	4456 Feb 14 12:46	21° \mathcal{I} 53'08		conjunction	4461 Dec 13 17:38	22° \mathcal{Z} 30'24	0°40'45
	4456 Apr 28 14:14	0° \mathfrak{E}		minimum elong	4461 Dec 13 17:40	22° \mathcal{Z} 30'24	0°40'46
evening set	4456 Jun 19 21:15	11° \mathfrak{E} 26'01		morning rise	4461 Dec 26 10:43	25° \mathcal{Z} 16'52	
conjunction	4456 Jul 03 13:48	14° \mathfrak{E} 39'19	0°-21'-3		4462 Jan 17 15:20	0° \mathcal{B}	
minimum elong	4456 Jul 03 13:50	14° \mathfrak{E} 39'20	0°21'04	retrograde	4462 Apr 26 14:37	12° \mathcal{B} 18'01	
max. Earth dist.	4456 Jul 06 01:00	15° \mathfrak{E} 14'10	6.03250 AU	opposition	4462 Jun 26 12:43	7° \mathcal{B} 25'59	0°41'05
morning rise	4456 Jul 17 08:10	17° \mathfrak{E} 53'17		min. Earth dist.	4462 Jun 28 02:28	7° \mathcal{B} 13'58	4.38272 AU
	4456 Sep 11 20:03	0° Ω		direct	4462 Aug 28 01:47	2° \mathcal{B} 25'39	
retrograde	4456 Nov 23 13:55	7° Ω 33'43		evening set	4462 Dec 31 16:00	20° \mathcal{B} 15'54	
min. Earth dist.	4457 Jan 20 15:35	2° Ω 41'35	4.10380 AU	max. Earth dist.	4463 Jan 11 02:54	22° \mathcal{B} 36'20	6.31855 AU
opposition	4457 Jan 22 04:17	2° Ω 29'06	0°-4'-57	conjunction	4463 Jan 13 09:08	23° \mathcal{B} 06'47	0°13'03
	4457 Feb 10 08:57	30° \mathcal{R} \mathfrak{E}		minimum elong	4463 Jan 13 09:08	23° \mathcal{B} 06'48	0°13'04
asc. node	4457 Feb 28 23:11	28° \mathfrak{E} 14'21		behind sun begin	4463 Jan 13 04:15	23° \mathcal{B} 04'04	
direct	4457 Mar 21 21:28	27° \mathfrak{E} 30'13		behind sun end	4463 Jan 13 14:01	23° \mathcal{B} 09'31	
	4457 Apr 30 15:37	0° Ω		morning rise	4463 Jan 26 01:10	25° \mathcal{B} 57'21	
	4457 Jul 20 09:08	15° Ω			4463 Feb 13 10:33	0° \approx	
evening set	4457 Jul 26 10:33	16° Ω 21'50		retrograde	4463 May 29 17:30	13° \approx 47'54	
conjunction	4457 Aug 09 03:27	19° Ω 28'27	0°13'58	desc. node	4463 Jun 21 06:21	13° \approx 00'53	
				opposition	4463 Jul 29 13:10	8° \approx 55'11	0°-4'-41

















































































































min. Earth dist.	4463 Jul 31 01:43	8° \approx 43'28	4.24438 AU	conjunction	4469 Aug 13 23:50	24° Ω 12'51	0°18'31
direct	4463 Sep 29 03:44	3° \approx 56'54		minimum elong	4469 Aug 13 23:49	24° Ω 12'51	0°18'30
	4463 Dec 30 00:22	15° \approx		max. Earth dist.	4469 Aug 16 00:14	24° Ω 40'13	6.20481 AU
evening set	4464 Feb 01 16:07	22° \approx 26'00		morning rise	4469 Aug 27 16:12	27° Ω 17'56	
max. Earth dist.	4464 Feb 12 14:22	24° \approx 57'55	6.16634 AU		4469 Sep 08 20:31	0° \cap	
				retrograde	4469 Dec 30 22:03	15° \cap 36'02	
conjunction	4464 Feb 14 09:51	25° \approx 23'12	0°-19'-47	opposition	4470 Feb 28 19:02	10° \cap 34'12	0°49'10
minimum elong	4464 Feb 14 09:49	25° \approx 23'11	0°19'47	min. Earth dist.	4470 Feb 27 19:21	10° \cap 42'09	4.28088 AU
morning rise	4464 Feb 27 03:30	28° \approx 20'44		direct	4470 Apr 29 23:44	5° \cap 32'49	
	4464 Mar 05 08:01	0° \bowtie		evening set	4470 Sep 03 13:29	23° \cap 36'47	
retrograde	4464 Jul 03 08:46	17° \bowtie 20'35					
opposition	4464 Sep 01 20:13	12° \bowtie 25'44	0°-52'-16	conjunction	4470 Sep 17 01:06	26° \cap 33'59	0°45'41
min. Earth dist.	4464 Sep 02 20:11	12° \bowtie 17'58	4.08921 AU	minimum elong	4470 Sep 17 01:04	26° \cap 33'58	0°45'40
direct	4464 Nov 01 01:29	7° \bowtie 29'59		max. Earth dist.	4470 Sep 17 23:00	26° \cap 45'59	6.35045 AU
evening set	4465 Mar 06 16:06	26° \bowtie 43'14		morning rise	4470 Sep 30 11:15	29° \cap 30'09	
					4470 Oct 02 18:12	0° $\underline{\Delta}$	
conjunction	4465 Mar 19 13:03	29° \bowtie 48'04	0°-47'-30	retrograde	4471 Jan 30 17:32	16° $\underline{\Delta}$ 49'42	
minimum elong	4465 Mar 19 13:02	29° \bowtie 48'03	0°47'31	opposition	4471 Mar 31 22:43	11° $\underline{\Delta}$ 51'27	1°18'33
max. Earth dist.	4465 Mar 18 17:09	29° \bowtie 36'08	6.02182 AU	min. Earth dist.	4471 Mar 31 17:20	11° $\underline{\Delta}$ 53'13	4.40699 AU
	4465 Mar 20 08:58	0° Υ		direct	4471 Jun 01 10:41	6° $\underline{\Delta}$ 49'03	
morning rise	4465 Apr 01 11:48	2° Υ 54'02		evening set	4471 Oct 05 20:26	24° $\underline{\Delta}$ 23'34	
retrograde	4465 Aug 10 01:35	23° Υ 03'01					
opposition	4465 Oct 09 04:04	18° Υ 04'44	-1°-23'-54	conjunction	4471 Oct 19 01:36	27° $\underline{\Delta}$ 14'11	0°58'36
min. Earth dist.	4465 Oct 09 04:42	18° Υ 04'32	3.96938 AU	minimum elong	4471 Oct 19 01:35	27° $\underline{\Delta}$ 14'11	0°58'36
direct	4465 Dec 06 23:06	13° Υ 10'45		max. Earth dist.	4471 Oct 18 19:46	27° $\underline{\Delta}$ 11'02	6.44770 AU
	4466 Mar 30 12:00	0° B			4471 Oct 31 21:34	0° M	
evening set	4466 Apr 11 19:33	2° B 57'00		morning rise	4471 Nov 01 04:06	0° M 03'30	
					4472 Jan 25 23:29	15° M	
conjunction	4466 Apr 24 23:16	6° B 08'42	0°-58'-28	retrograde	4472 Feb 29 15:10	16° M 49'40	
minimum elong	4466 Apr 24 23:17	6° B 08'42	0°58'30		4472 Apr 04 07:44	15° R M	
max. Earth dist.	4466 Apr 25 15:25	6° B 18'32	5.93802 AU	opposition	4472 Apr 30 05:21	11° M 54'44	1°25'24
morning rise	4466 May 08 05:37	9° B 21'58		min. Earth dist.	4472 Apr 30 18:11	11° M 50'35	4.47041 AU
	4466 Jun 01 02:06	15° B		direct	4472 Jul 01 14:30	6° M 52'22	
	4466 Sep 08 13:08	0° II			4472 Sep 19 12:52	15° M	
retrograde	4466 Sep 17 16:00	0° II 08'15		evening set	4472 Nov 04 18:58	24° M 14'43	
	4466 Sep 26 17:33	30° R B		max. Earth dist.	4472 Nov 16 09:31	26° M 44'29	6.47231 AU
min. Earth dist.	4466 Nov 15 10:44	25° B 13'25	3.93210 AU				
opposition	4466 Nov 16 08:09	25° B 06'11	-1°-23'-10	conjunction	4472 Nov 17 17:58	27° M 02'00	0°55'24
direct	4467 Jan 13 07:25	20° B 12'00		minimum elong	4472 Nov 17 17:59	27° M 02'00	0°55'23
	4467 Apr 05 03:16	0° II		morning rise	4472 Nov 30 14:30	29° M 48'07	
evening set	4467 May 19 09:36	10° II 03'38			4472 Dec 01 12:42	0° Z	
				retrograde	4473 Mar 30 19:24	16° Z 29'44	
conjunction	4467 Jun 01 21:16	13° II 18'32	0°-46'-20	opposition	4473 May 30 14:35	11° Z 37'00	1°09'53
minimum elong	4467 Jun 01 21:18	13° II 18'33	0°46'21	min. Earth dist.	4473 May 31 20:20	11° Z 27'29	4.45556 AU
max. Earth dist.	4467 Jun 03 19:57	13° II 46'40	5.95030 AU	direct	4473 Aug 01 09:30	6° Z 35'23	
morning rise	4467 Jun 15 11:45	16° II 34'48		evening set	4473 Dec 05 05:06	24° Z 04'41	
	4467 Aug 16 07:29	0° B		max. Earth dist.	4473 Dec 15 22:56	26° Z 25'30	6.41856 AU
retrograde	4467 Oct 25 02:38	7° B 04'32					
min. Earth dist.	4467 Dec 22 03:55	2° B 12'08	3.99309 AU	conjunction	4473 Dec 18 00:02	26° Z 52'25	0°37'24
opposition	4467 Dec 23 15:37	2° B 00'00	0°-48'-50	minimum elong	4473 Dec 18 00:04	26° Z 52'26	0°37'25
	4468 Jan 07 19:18	30° R II		morning rise	4473 Dec 30 16:53	29° Z 39'18	
direct	4468 Feb 19 15:13	27° II 03'38			4474 Jan 01 06:53	0° Z	
	4468 Apr 02 06:55	0° B		retrograde	4474 May 01 02:58	16° Z 45'55	
evening set	4468 Jun 25 00:24	16° B 30'22		opposition	4474 Jul 01 01:19	11° Z 53'49	0°35'12
				min. Earth dist.	4474 Jul 02 14:36	11° Z 41'55	4.36591 AU
conjunction	4468 Jul 08 17:09	19° B 42'49	0°-16'-16	direct	4474 Sep 01 11:19	6° Z 53'41	
minimum elong	4468 Jul 08 17:10	19° B 42'50	0°16'17	evening set	4475 Jan 05 01:44	24° Z 48'25	
max. Earth dist.	4468 Jul 11 02:33	20° B 16'27	6.05348 AU	max. Earth dist.	4475 Jan 15 14:49	27° Z 10'39	6.29948 AU
morning rise	4468 Jul 22 11:45	22° B 55'52					
	4468 Aug 23 00:14	0° Ω		conjunction	4475 Jan 17 18:51	27° Z 40'01	0°08'32
retrograde	4468 Nov 28 05:59	12° Ω 25'54		minimum elong	4475 Jan 17 18:52	27° Z 40'01	0°08'32
asc. node	4469 Jan 09 14:43	9° Ω 37'11		behind sun begin	4475 Jan 17 11:54	27° Z 36'06	
min. Earth dist.	4469 Jan 25 10:08	7° Ω 33'22	4.12622 AU	behind sun end	4475 Jan 18 01:50	27° Z 43'56	
opposition	4469 Jan 26 21:10	7° Ω 21'28	0°02'16		4475 Jan 28 03:02	0° \approx	
direct	4469 Mar 26 19:10	2° Ω 22'11		morning rise	4475 Jan 30 10:49	0° \approx 31'20	
	4469 Jul 03 08:14	15° Ω			4475 Apr 15 19:01	15° \approx	
evening set	4469 Jul 31 07:08	21° Ω 07'21		desc. node	4475 Apr 30 16:13	16° \approx 45'27	

retrograde	4475 Jun 03 14:10	18° \approx 30'11		min. Earth dist.	4481 Jan 30 04:44	12° Ω 26'28	4.14554 AU
	4475 Jul 23 10:37	15° \approx		opposition	4481 Jan 31 14:40	12° Ω 14'57	0°09'30
opposition	4475 Aug 03 08:50	13° \approx 37'13	0°-11'-39	direct	4481 Mar 31 15:54	7° Ω 15'23	
min. Earth dist.	4475 Aug 04 20:40	13° \approx 25'44	4.22408 AU		4481 Jun 13 19:40	15° Ω	
direct	4475 Oct 03 19:46	8° \approx 39'17		evening set	4481 Aug 05 05:24	25° Ω 55'21	
	4475 Dec 09 19:05	15° \approx					
evening set	4476 Feb 06 07:24	27° \approx 13'47		conjunction	4481 Aug 18 21:30	28° Ω 59'49	0°23'00
max. Earth dist.	4476 Feb 17 07:01	29° \approx 47'14	6.14631 AU	minimum elong	4481 Aug 18 21:29	28° Ω 59'48	0°23'01
	4476 Feb 18 04:52	0° \approx		max. Earth dist.	4481 Aug 20 17:56	29° Ω 24'49	6.22421 AU
					4481 Aug 23 08:29	0° \approx	
conjunction	4476 Feb 19 01:14	0° \approx 11'53	0°-24'-15	morning rise	4481 Sep 01 13:25	2° \approx 03'48	
minimum elong	4476 Feb 19 01:12	0° \approx 11'53	0°24'16	retrograde	4482 Jan 04 08:10	20° \approx 13'31	
morning rise	4476 Mar 02 19:30	3° \approx 10'29		min. Earth dist.	4482 Mar 04 08:55	15° \approx 19'21	4.29893 AU
retrograde	4476 Jul 08 10:55	22° \approx 19'46		opposition	4482 Mar 05 06:25	15° \approx 12'09	0°54'35
opposition	4476 Sep 06 22:38	17° \approx 24'26	0°-58'-5	direct	4482 May 04 15:12	10° \approx 10'36	
min. Earth dist.	4476 Sep 07 19:07	17° \approx 17'46	4.07101 AU	evening set	4482 Sep 08 05:20	28° \approx 10'25	
direct	4476 Nov 05 22:50	12° \approx 28'55			4482 Sep 16 14:24	0° \approx	
	4477 Mar 04 01:25	0° \approx					
evening set	4477 Mar 11 14:02	1° \approx 47'10		conjunction	4482 Sep 21 16:15	1° \approx 06'39	0°48'27
				minimum elong	4482 Sep 21 16:13	1° \approx 06'38	0°48'27
conjunction	4477 Mar 24 11:50	4° \approx 52'59	0°-50'-16	max. Earth dist.	4482 Sep 22 11:46	1° \approx 17'20	6.36606 AU
minimum elong	4477 Mar 24 11:49	4° \approx 52'58	0°50'16	morning rise	4482 Oct 05 01:12	4° \approx 01'45	
max. Earth dist.	4477 Mar 23 21:31	4° \approx 44'22	6.00711 AU	retrograde	4483 Feb 03 23:51	21° \approx 15'34	
morning rise	4477 Apr 06 11:19	7° \approx 59'58		opposition	4483 Apr 05 06:21	16° \approx 17'54	1°20'55
retrograde	4477 Aug 15 11:15	28° \approx 16'04		min. Earth dist.	4483 Apr 05 02:47	16° \approx 19'04	4.41946 AU
opposition	4477 Oct 14 11:00	23° \approx 17'16	-1°-25'-56	direct	4483 Jun 05 21:10	11° \approx 15'36	
min. Earth dist.	4477 Oct 14 09:26	23° \approx 17'47	3.95974 AU	evening set	4483 Oct 10 07:21	28° \approx 47'32	
direct	4477 Dec 12 03:24	18° \approx 23'21			4483 Oct 15 22:30	0° \approx	
	4478 Mar 12 16:48	0° \approx					
evening set	4478 Apr 16 23:13	8° \approx 11'47		conjunction	4483 Oct 23 11:24	1° \approx 37'26	0°59'07
				minimum elong	4483 Oct 23 11:24	1° \approx 37'26	0°59'08
conjunction	4478 Apr 30 03:59	11° \approx 24'11	0°-58'-9	max. Earth dist.	4483 Oct 23 00:58	1° \approx 31'49	6.45635 AU
minimum elong	4478 Apr 30 03:59	11° \approx 24'11	0°58'11	morning rise	4483 Nov 05 13:06	4° \approx 26'05	
max. Earth dist.	4478 May 01 00:11	11° \approx 36'28	5.93424 AU		4483 Dec 29 10:10	15° \approx	
morning rise	4478 May 13 11:37	14° \approx 38'10		retrograde	4484 Mar 04 21:46	21° \approx 09'35	
	4478 May 14 23:48	15° \approx		opposition	4484 May 04 11:55	16° \approx 15'04	1°24'31
	4478 Jul 24 15:19	0° \approx		min. Earth dist.	4484 May 05 03:34	16° \approx 10'01	4.47515 AU
retrograde	4478 Sep 22 22:30	5° \approx 25'19			4484 May 14 06:54	15° \approx	
opposition	4478 Nov 21 14:21	0° \approx 22'48	-1°-20'-8	direct	4484 Jul 06 00:04	11° \approx 12'49	
min. Earth dist.	4478 Nov 20 13:47	0° \approx 31'06	3.93489 AU		4484 Aug 27 11:03	15° \approx	
	4478 Nov 24 10:01	30° \approx		evening set	4484 Nov 09 02:09	28° \approx 34'12	
direct	4479 Jan 18 11:04	25° \approx 28'25			4484 Nov 15 18:00	0° \approx	
	4479 Mar 12 18:05	0° \approx		max. Earth dist.	4484 Nov 20 14:54	1° \approx 03'02	6.47292 AU
evening set	4479 May 24 15:35	15° \approx 18'22					
				conjunction	4484 Nov 22 00:34	1° \approx 21'13	0°53'43
conjunction	4479 Jun 07 04:07	18° \approx 33'17	0°-42'-57	minimum elong	4484 Nov 22 00:36	1° \approx 21'13	0°53'43
minimum elong	4479 Jun 07 04:09	18° \approx 33'18	0°42'58	morning rise	4484 Dec 04 20:16	4° \approx 07'02	
max. Earth dist.	4479 Jun 09 04:13	19° \approx 02'13	5.95919 AU	retrograde	4485 Apr 04 01:10	20° \approx 49'09	
morning rise	4479 Jun 20 19:32	21° \approx 49'31		opposition	4485 Jun 03 22:20	15° \approx 56'35	1°06'04
	4479 Jul 26 12:41	0° \approx		min. Earth dist.	4485 Jun 05 04:18	15° \approx 47'00	4.45215 AU
retrograde	4479 Oct 30 03:25	12° \approx 13'24		direct	4485 Aug 05 16:22	10° \approx 55'12	
min. Earth dist.	4479 Dec 27 04:24	7° \approx 20'59	4.00689 AU	evening set	4485 Dec 09 11:06	28° \approx 25'14	
opposition	4479 Dec 28 16:22	7° \approx 08'43	0°-42'-11		4485 Dec 16 16:31	0° \approx	
direct	4480 Feb 24 18:45	2° \approx 11'55		max. Earth dist.	4485 Dec 20 03:51	0° \approx 45'45	6.41135 AU
evening set	4480 Jun 30 04:00	21° \approx 34'09					
				conjunction	4485 Dec 22 05:29	1° \approx 13'02	0°33'57
conjunction	4480 Jul 13 21:16	24° \approx 45'59	0°-11'-22	minimum elong	4485 Dec 22 05:30	1° \approx 13'03	0°33'57
minimum elong	4480 Jul 13 21:17	24° \approx 46'00	0°11'23	morning rise	4486 Jan 03 21:56	4° \approx 00'04	
behind sun begin	4480 Jul 13 15:17	24° \approx 42'30		retrograde	4486 May 05 14:28	21° \approx 10'22	
behind sun end	4480 Jul 14 03:18	24° \approx 49'29		opposition	4486 Jul 05 12:33	16° \approx 18'15	0°29'18
max. Earth dist.	4480 Jul 16 07:35	25° \approx 20'00	6.07102 AU	min. Earth dist.	4486 Jul 07 03:04	16° \approx 05'58	4.35507 AU
morning rise	4480 Jul 27 15:48	27° \approx 58'12		direct	4486 Sep 05 21:46	11° \approx 18'23	
	4480 Aug 05 12:03	0° \approx		evening set	4487 Jan 09 09:10	29° \approx 15'42	
	4480 Oct 25 13:22	15° \approx			4487 Jan 12 16:00	0° \approx	
asc. node	4480 Nov 19 10:28	17° \approx 00'59		max. Earth dist.	4487 Jan 19 21:15	1° \approx 37'51	6.28576 AU
retrograde	4480 Dec 02 23:54	17° \approx 19'05					
	4481 Jan 10 03:43	15° \approx		conjunction	4487 Jan 22 02:07	2° \approx 07'47	0°04'09

minimum elong	4487 Jan 22 02:06	2°≈07'46	0°04'10	max. Earth dist.	4492 Jul 21 09:22	0°Ω20'07	6.08483 AU
behind sun begin	4487 Jan 21 18:15	2°≈03'21		morning rise	4492 Aug 01 18:54	2°Ω58'27	
behind sun end	4487 Jan 22 09:57	2°≈12'11			4492 Sep 27 18:31	15°Ω	
morning rise	4487 Feb 03 18:10	4°≈59'40		asc. node	4492 Sep 30 03:17	15°Ω25'18	
desc. node	4487 Mar 12 11:51	12°≈54'18		retrograde	4492 Dec 07 15:25	22°Ω11'26	
	4487 Mar 23 07:49	15°≈		min. Earth dist.	4493 Feb 03 21:56	17°Ω18'53	4.16191 AU
retrograde	4487 Jun 08 05:29	23°≈05'12		opposition	4493 Feb 05 07:35	17°Ω07'28	0°16'32
opposition	4487 Aug 08 00:53	18°≈11'57	0°-18'-14		4493 Feb 21 13:17	15°RΩ	
min. Earth dist.	4487 Aug 09 10:53	18°≈01'01	4.20827 AU	direct	4493 Apr 05 11:47	12°Ω07'31	
	4487 Sep 04 03:35	15°R≈			4493 May 18 17:10	15°Ω	
direct	4487 Oct 08 07:37	13°≈14'16			4493 Aug 06 22:02	0°η	
	4487 Nov 11 06:14	15°≈		evening set	4493 Aug 10 03:25	0°η43'03	
	4488 Feb 02 15:04	0°X					
evening set	4488 Feb 10 18:54	1°X53'01		conjunction	4493 Aug 23 19:10	3°η46'32	0°27'17
max. Earth dist.	4488 Feb 21 22:01	4°X29'02	6.12971 AU	minimum elong	4493 Aug 23 19:09	3°η46'32	0°27'16
				max. Earth dist.	4493 Aug 25 13:50	4°η10'28	6.24194 AU
conjunction	4488 Feb 23 13:04	4°X51'55	0°-28'-21	morning rise	4493 Sep 06 10:14	6°η49'23	
minimum elong	4488 Feb 23 13:02	4°X51'55	0°28'23	retrograde	4494 Jan 08 19:10	24°η50'57	
morning rise	4488 Mar 07 07:40	7°X51'23		opposition	4494 Mar 09 17:51	19°η50'00	0°59'33
retrograde	4488 Jul 13 11:05	27°X09'08		min. Earth dist.	4494 Mar 08 22:26	19°η56'29	4.31631 AU
opposition	4488 Sep 11 20:38	22°X13'25	-1°-3'-14	direct	4494 May 09 07:28	14°η48'14	
min. Earth dist.	4488 Sep 12 16:09	22°X07'03	4.05486 AU		4494 Aug 31 04:02	0°Ω	
direct	4488 Nov 10 17:39	17°X18'07		evening set	4494 Sep 12 21:12	2°Ω43'37	
	4489 Feb 15 12:02	0°Y					
evening set	4489 Mar 16 07:38	6°Y40'58		conjunction	4494 Sep 26 07:08	5°Ω38'49	0°50'54
				minimum elong	4494 Sep 26 07:06	5°Ω38'48	0°50'54
conjunction	4489 Mar 29 06:08	9°Y47'45	0°-52'-32	max. Earth dist.	4494 Sep 26 22:38	5°Ω47'16	6.38152 AU
minimum elong	4489 Mar 29 06:07	9°Y47'44	0°52'33	morning rise	4494 Oct 09 15:11	8°Ω32'53	
max. Earth dist.	4489 Mar 28 18:07	9°Y40'30	5.99283 AU	retrograde	4495 Feb 08 05:45	25°Ω40'41	
morning rise	4489 Apr 11 06:40	12°Y55'50		opposition	4495 Apr 09 13:57	20°Ω43'22	1°22'46
	4489 Jul 05 00:22	0°Z		min. Earth dist.	4495 Apr 09 12:43	20°Ω43'46	4.43184 AU
retrograde	4489 Aug 20 14:06	3°Z19'00		direct	4495 Jun 10 08:33	15°Ω40'56	
	4489 Oct 06 17:16	30°R'Y			4495 Sep 29 17:03	0°M	
opposition	4489 Oct 19 12:56	28°Y19'43	-1°-27'-16	evening set	4495 Oct 14 17:20	3°M09'51	
min. Earth dist.	4489 Oct 19 08:04	28°Y21'20	3.94905 AU				
direct	4489 Dec 17 00:23	23°Y25'50		conjunction	4495 Oct 27 20:38	5°M59'05	0°59'17
	4490 Feb 20 11:26	0°Z		minimum elong	4495 Oct 27 20:37	5°M59'05	0°59'16
evening set	4490 Apr 21 23:12	13°Z17'27		max. Earth dist.	4495 Oct 27 08:10	5°M52'23	6.46449 AU
	4490 Apr 29 00:11	15°Z		morning rise	4495 Nov 09 21:12	8°M47'01	
					4495 Dec 09 23:25	15°M	
conjunction	4490 May 05 05:04	16°Z30'39	0°-57'-25	retrograde	4496 Mar 09 02:04	25°M28'00	
minimum elong	4490 May 05 05:04	16°Z30'40	0°57'26	opposition	4496 May 08 18:20	20°M33'47	1°23'08
max. Earth dist.	4490 May 06 04:21	16°Z44'50	5.92817 AU	min. Earth dist.	4496 May 09 11:43	20°M28'11	4.47828 AU
morning rise	4490 May 18 13:54	19°Z45'29		direct	4496 Jul 10 08:22	15°M31'37	
	4490 Jul 02 10:28	0°II			4496 Oct 30 19:06	0°Z	
retrograde	4490 Sep 28 01:55	10°II34'35		evening set	4496 Nov 13 09:03	2°Z52'23	
opposition	4490 Nov 26 16:36	5°II31'40	-1°-16'-39	max. Earth dist.	4496 Nov 24 16:52	5°Z18'47	6.47049 AU
min. Earth dist.	4490 Nov 25 14:33	5°II40'29	3.93412 AU				
direct	4491 Jan 23 13:02	0°II36'59		conjunction	4496 Nov 26 06:36	5°Z39'10	0°51'41
evening set	4491 May 29 19:00	20°II27'01		minimum elong	4496 Nov 26 06:37	5°Z39'11	0°51'42
				morning rise	4496 Dec 09 01:47	8°Z24'53	
conjunction	4491 Jun 12 08:46	23°II42'14	0°-39'-21	retrograde	4497 Apr 08 09:46	25°Z08'36	
minimum elong	4491 Jun 12 08:48	23°II42'15	0°39'23	opposition	4497 Jun 08 06:44	20°Z16'10	1°01'49
max. Earth dist.	4491 Jun 14 12:37	24°II13'21	5.96402 AU	min. Earth dist.	4497 Jun 09 15:16	20°Z05'47	4.44411 AU
morning rise	4491 Jun 26 00:58	26°II58'37		direct	4497 Aug 10 01:37	15°Z14'54	
	4491 Jul 08 21:11	0°Ω			4497 Nov 30 19:53	0°Z	
retrograde	4491 Nov 04 03:55	17°Ω18'12		evening set	4497 Dec 13 17:50	2°Z47'15	
min. Earth dist.	4492 Jan 01 02:49	12°Ω25'48	4.01669 AU	max. Earth dist.	4497 Dec 24 09:01	5°Z07'20	6.39819 AU
opposition	4492 Jan 02 15:06	12°Ω13'25	0°-35'-27				
direct	4492 Feb 29 18:46	7°Ω16'15		conjunction	4497 Dec 26 11:59	5°Z35'25	0°30'12
evening set	4492 Jul 05 06:38	26°Ω35'31		minimum elong	4497 Dec 26 12:00	5°Z35'26	0°30'12
				morning rise	4498 Jan 08 04:08	8°Z22'52	
conjunction	4492 Jul 19 00:06	29°Ω46'49	0°-6'-30	retrograde	4498 May 10 02:54	25°Z39'02	
minimum elong	4492 Jul 19 00:06	29°Ω46'50	0°06'32	opposition	4498 Jul 10 01:53	20°Z46'50	0°23'01
behind sun begin	4492 Jul 18 16:15	29°Ω42'17		min. Earth dist.	4498 Jul 11 15:47	20°Z34'44	4.33749 AU
behind sun end	4492 Jul 19 07:57	29°Ω51'22		direct	4498 Sep 10 07:27	15°Z47'15	
	4492 Jul 19 22:46	0°Ω			4498 Dec 27 12:54	0°≈	

evening set	4499 Jan 13 19:23	3° \approx 49'32		conjunction	4504 Jul 25 05:01	4° Ω 52'10	0°-1'-28
desc. node	4499 Jan 20 01:43	5° \approx 14'32		minimum elong	4504 Jul 25 05:00	4° Ω 52'09	0°01'29
max. Earth dist.	4499 Jan 24 08:39	6° \approx 13'02	6.26507 AU	behind sun begin	4504 Jul 24 20:36	4° Ω 47'20	
				behind sun end	4504 Jul 25 13:24	4° Ω 56'59	
conjunction	4499 Jan 26 12:17	6° \approx 42'24	0°00'-32	max. Earth dist.	4504 Jul 27 13:51	5° Ω 25'02	6.10783 AU
minimum elong	4499 Jan 26 12:16	6° \approx 42'24	0°00'33	morning rise	4504 Aug 07 23:26	8° Ω 02'34	
behind sun begin	4499 Jan 26 04:19	6° \approx 37'54		asc. node	4504 Aug 10 13:02	8° Ω 37'46	
behind sun end	4499 Jan 26 20:14	6° \approx 46'55			4504 Sep 08 10:20	15° Ω	
morning rise	4499 Feb 08 04:29	9° \approx 35'13		retrograde	4504 Dec 13 08:00	27° Ω 04'17	
	4499 Mar 04 16:42	15° \approx		min. Earth dist.	4505 Feb 09 16:57	22° Ω 11'20	4.18679 AU
retrograde	4499 Jun 13 04:24	27° \approx 50'15		opposition	4505 Feb 11 00:34	22° Ω 00'38	0°23'28
opposition	4499 Aug 12 21:52	22° \approx 56'46	0°-25'-6	direct	4505 Apr 11 10:33	17° Ω 00'22	
min. Earth dist.	4499 Aug 14 07:38	22° \approx 45'54	4.18567 AU		4505 Jul 21 17:39	0° \cap	
direct	4499 Oct 13 01:16	17° \approx 59'25		evening set	4505 Aug 16 00:20	5° \cap 28'39	
	4500 Jan 16 13:24	0° H					
evening set	4500 Feb 15 11:39	6° H 44'47		conjunction	4505 Aug 29 15:22	8° \cap 30'47	0°31'21
max. Earth dist.	4500 Feb 26 17:08	9° H 22'59	6.10718 AU	minimum elong	4505 Aug 29 15:20	8° \cap 30'46	0°31'21
				max. Earth dist.	4505 Aug 31 07:14	8° \cap 53'00	6.26652 AU
conjunction	4500 Feb 28 06:14	9° H 44'50	0°-32'-31	morning rise	4505 Sep 12 05:32	11° \cap 32'11	
minimum elong	4500 Feb 28 06:12	9° H 44'49	0°32'33	retrograde	4506 Jan 14 01:43	29° \cap 23'46	
morning rise	4500 Mar 13 01:32	12° H 45'34		min. Earth dist.	4506 Mar 14 09:34	24° \cap 29'09	4.33866 AU
	4500 Jun 11 13:12	0° Υ		opposition	4506 Mar 15 03:13	24° \cap 23'17	1°04'03
retrograde	4500 Jul 19 16:23	2° Υ 14'01		direct	4506 May 14 21:05	19° \cap 21'20	
	4500 Aug 27 02:31	30° R H			4506 Aug 14 19:10	0° $\underline{\Delta}$	
opposition	4500 Sep 18 01:05	27° H 17'55	-1°-8'-18	evening set	4506 Sep 18 09:59	7° $\underline{\Delta}$ 10'58	
min. Earth dist.	4500 Sep 18 16:53	27° H 12'46	4.03457 AU				
direct	4500 Nov 16 15:53	22° H 22'57		conjunction	4506 Oct 01 18:55	10° $\underline{\Delta}$ 05'00	0°52'59
	4501 Jan 27 15:58	0° Υ		minimum elong	4506 Oct 01 18:54	10° $\underline{\Delta}$ 05'00	0°52'59
evening set	4501 Mar 22 08:36	11° Υ 51'57		max. Earth dist.	4506 Oct 02 06:15	10° $\underline{\Delta}$ 11'10	6.39991 AU
				morning rise	4506 Oct 15 01:46	12° $\underline{\Delta}$ 57'52	
conjunction	4501 Apr 04 07:58	14° Υ 59'53	0°-54'-35	retrograde	4507 Feb 13 09:33	29° $\underline{\Delta}$ 59'24	
minimum elong	4501 Apr 04 07:57	14° Υ 59'52	0°54'36	opposition	4507 Apr 14 18:54	25° $\underline{\Delta}$ 02'35	1°24'07
max. Earth dist.	4501 Apr 04 00:39	14° Υ 55'27	5.97672 AU	min. Earth dist.	4507 Apr 14 21:04	25° $\underline{\Delta}$ 01'53	4.44507 AU
morning rise	4501 Apr 17 09:34	18° Υ 09'11		direct	4507 Jun 15 18:18	20° $\underline{\Delta}$ 00'07	
	4501 Jun 09 13:05	0° B			4507 Sep 13 13:15	0° M	
retrograde	4501 Aug 27 01:07	8° B 39'57		evening set	4507 Oct 20 00:23	7° M 26'04	
opposition	4501 Oct 25 22:15	3° B 40'09	-1°-27'-59	max. Earth dist.	4507 Nov 01 08:54	10° M 05'07	6.47136 AU
min. Earth dist.	4501 Oct 25 14:25	3° B 42'46	3.93898 AU				
	4501 Nov 26 03:36	30° R Υ		conjunction	4507 Nov 02 02:41	10° M 14'40	0°59'07
direct	4501 Dec 23 06:40	28° Υ 46'20		minimum elong	4507 Nov 02 02:41	10° M 14'40	0°59'07
	4502 Jan 19 06:10	0° B		morning rise	4507 Nov 15 02:28	13° M 02'00	
	4502 Apr 12 21:32	15° B			4507 Nov 24 08:53	15° M	
evening set	4502 Apr 28 06:29	18° B 40'38		retrograde	4508 Mar 14 05:09	29° M 41'19	
				opposition	4508 May 13 22:28	24° M 47'23	1°21'21
conjunction	4502 May 11 13:41	21° B 54'35	0°-56'-10	min. Earth dist.	4508 May 14 18:46	24° M 40'50	4.47857 AU
minimum elong	4502 May 11 13:42	21° B 54'35	0°56'11	direct	4508 Jul 15 14:21	19° M 45'12	
max. Earth dist.	4502 May 12 19:06	22° B 12'29	5.92534 AU		4508 Oct 14 22:50	0° J	
morning rise	4502 May 24 23:40	25° B 10'06		evening set	4508 Nov 18 13:34	7° J 06'28	
	4502 Jun 14 08:38	0° II		max. Earth dist.	4508 Nov 29 19:03	9° J 31'50	6.46409 AU
retrograde	4502 Oct 04 12:33	15° II 59'03					
min. Earth dist.	4502 Dec 01 20:36	11° II 05'25	3.93925 AU	conjunction	4508 Dec 01 10:40	9° J 53'17	0°49'26
opposition	4502 Dec 03 00:57	10° II 55'49	-1°-12'-17	minimum elong	4508 Dec 01 10:42	9° J 53'18	0°49'27
direct	4503 Jan 29 20:48	6° II 00'58		morning rise	4508 Dec 14 05:09	12° J 39'01	
evening set	4503 Jun 05 04:05	25° II 48'29		retrograde	4509 Apr 13 15:48	29° J 25'52	
				opposition	4509 Jun 13 14:02	24° J 33'33	0°57'20
conjunction	4503 Jun 18 18:30	29° II 03'29	0°-35'-16	min. Earth dist.	4509 Jun 14 23:49	24° J 22'47	4.43135 AU
minimum elong	4503 Jun 18 18:32	29° II 03'30	0°35'16	direct	4509 Aug 15 07:40	19° J 32'27	
max. Earth dist.	4503 Jun 21 00:09	29° II 35'33	5.97652 AU		4509 Nov 14 22:50	0° Z	
	4503 Jun 22 17:03	0° S		evening set	4509 Dec 18 23:54	7° Z 08'39	
morning rise	4503 Jul 02 11:35	2° S 19'37		max. Earth dist.	4509 Dec 29 12:30	9° Z 27'59	6.37987 AU
retrograde	4503 Nov 10 03:57	22° S 31'16					
min. Earth dist.	4504 Jan 07 03:01	17° S 39'16	4.03524 AU	conjunction	4509 Dec 31 17:38	9° Z 57'23	0°26'20
opposition	4504 Jan 08 16:43	17° S 26'25	0°-28'-11	minimum elong	4509 Dec 31 17:39	9° Z 57'24	0°26'20
direct	4504 Mar 06 22:21	12° S 28'51		morning rise	4510 Jan 13 09:47	12° Z 45'32	
	4504 Jul 04 01:27	0° Ω			4510 May 05 16:53	0° \approx	
evening set	4504 Jul 11 11:26	1° Ω 41'53		retrograde	4510 May 15 18:41	0° \approx 09'30	
					4510 May 25 19:43	30° R Z	

opposition	4510 Jul 15 16:04	25°☾17'12	0°16'36	direct	4516 Mar 12 03:03	17°☾37'29	
min. Earth dist.	4510 Jul 17 07:06	25°☾04'44	4.31455 AU		4516 Jun 16 08:29	0°♈	
direct	4510 Sep 15 19:30	20°☾17'49		asc. node	4516 Jun 19 16:21	0°♈42'43	
desc. node	4510 Nov 30 23:49	28°☾06'56		evening set	4516 Jul 16 14:39	6°♈43'19	
	4510 Dec 10 21:53	0°♈					
evening set	4511 Jan 19 06:42	8°♈26'52		conjunction	4516 Jul 30 08:08	9°♈52'27	0°03'38
max. Earth dist.	4511 Jan 29 21:08	10°♈51'51	6.23942 AU	minimum elong	4516 Jul 30 08:08	9°♈52'27	0°03'38
				behind sun begin	4516 Jul 29 23:49	9°♈47'42	
conjunction	4511 Jan 31 23:50	11°♈20'50	0°-5'-13	behind sun end	4516 Jul 30 16:26	9°♈57'12	
minimum elong	4511 Jan 31 23:50	11°♈20'50	0°05'13	max. Earth dist.	4516 Aug 01 16:20	10°♈24'44	6.13227 AU
behind sun begin	4511 Jan 31 16:06	11°♈16'26		morning rise	4516 Aug 13 02:14	13°♈01'34	
behind sun end	4511 Feb 01 07:34	11°♈25'14			4516 Aug 21 19:40	15°♈	
morning rise	4511 Feb 13 16:19	14°♈14'49			4516 Nov 13 12:12	0°♈	
	4511 Feb 16 23:53	15°♈		retrograde	4516 Dec 17 21:13	1°♈51'59	
	4511 May 07 21:59	0°♈			4517 Jan 21 01:06	30°♈♈	
retrograde	4511 Jun 19 04:00	2°♈41'02		min. Earth dist.	4517 Feb 14 09:03	26°♈59'08	4.21147 AU
	4511 Aug 01 00:25	30°♈		opposition	4517 Feb 15 15:51	26°♈48'44	0°30'11
opposition	4511 Aug 18 20:51	27°♈47'16	0°-31'-53	direct	4517 Apr 16 05:35	21°♈48'11	
min. Earth dist.	4511 Aug 20 04:04	27°♈37'12	4.15934 AU		4517 Jul 02 16:05	0°♈	
direct	4511 Oct 18 18:02	22°♈50'17		evening set	4517 Aug 20 19:48	10°♈09'45	
	4511 Dec 28 16:13	0°♈					
evening set	4512 Feb 21 07:14	11°♈43'35		conjunction	4517 Sep 03 10:00	13°♈10'33	0°35'13
max. Earth dist.	4512 Mar 03 16:59	14°♈25'11	6.08249 AU	minimum elong	4517 Sep 03 09:58	13°♈10'32	0°35'13
				max. Earth dist.	4517 Sep 04 21:01	13°♈30'00	6.28950 AU
conjunction	4512 Mar 05 02:17	14°♈44'54	0°-36'-30	morning rise	4517 Sep 16 23:16	16°♈10'35	
minimum elong	4512 Mar 05 02:15	14°♈44'53	0°36'31		4517 Nov 28 06:29	0°♈	
morning rise	4512 Mar 17 22:22	17°♈47'02		retrograde	4518 Jan 18 10:11	3°♈53'18	
	4512 May 13 11:54	0°♈			4518 Mar 11 01:22	30°♈	
retrograde	4512 Jul 25 03:02	7°♈26'58		opposition	4518 Mar 19 11:54	28°♈53'23	1°08'12
opposition	4512 Sep 23 08:53	2°♈30'20	-1°-12'-54	min. Earth dist.	4518 Mar 18 21:55	28°♈58'02	4.35825 AU
min. Earth dist.	4512 Sep 23 21:37	2°♈26'09	4.01390 AU	direct	4518 May 19 11:35	23°♈51'19	
	4512 Oct 13 10:33	30°♈			4518 Jul 25 15:38	0°♈	
direct	4512 Nov 21 19:06	27°♈35'37		evening set	4518 Sep 22 22:14	11°♈36'22	
	4512 Dec 30 11:32	0°♈					
evening set	4513 Mar 27 12:35	17°♈10'33		conjunction	4518 Oct 06 06:18	14°♈29'28	0°54'48
				minimum elong	4518 Oct 06 06:17	14°♈29'28	0°54'48
conjunction	4513 Apr 09 13:05	20°♈19'37	0°-56'-11	max. Earth dist.	4518 Oct 06 13:40	14°♈33'28	6.41469 AU
minimum elong	4513 Apr 09 13:04	20°♈19'37	0°56'13	morning rise	4518 Oct 19 12:05	17°♈21'20	
max. Earth dist.	4513 Apr 09 12:19	20°♈19'10	5.96219 AU		4518 Dec 25 03:48	0°♈	
morning rise	4513 Apr 22 15:45	23°♈30'06		retrograde	4519 Feb 17 12:49	4°♈18'03	
	4513 May 20 09:13	0°♈			4519 Apr 14 02:26	30°♈	
retrograde	4513 Sep 01 14:36	14°♈07'00		opposition	4519 Apr 19 00:14	29°♈21'43	1°25'04
opposition	4513 Oct 31 09:55	9°♈06'39	-1°-27'-54	min. Earth dist.	4519 Apr 19 04:32	29°♈20'19	4.45441 AU
min. Earth dist.	4513 Oct 30 22:21	9°♈10'31	3.93259 AU	direct	4519 Jun 20 01:44	24°♈19'16	
direct	4513 Dec 28 14:43	4°♈12'52			4519 Aug 24 06:54	0°♈	
	4514 Mar 25 02:32	15°♈		evening set	4519 Oct 24 07:53	11°♈43'35	
evening set	4514 May 03 16:09	24°♈07'58					
				conjunction	4519 Nov 06 09:23	14°♈31'45	0°58'39
conjunction	4514 May 17 00:18	27°♈22'19	0°-54'-24	minimum elong	4519 Nov 06 09:24	14°♈31'45	0°58'39
minimum elong	4514 May 17 00:19	27°♈22'20	0°54'26	max. Earth dist.	4519 Nov 05 12:14	14°♈20'22	6.47462 AU
max. Earth dist.	4514 May 18 09:29	27°♈42'30	5.92741 AU		4519 Nov 08 13:53	15°♈	
	4514 May 27 20:12	0°♈		morning rise	4519 Nov 19 08:16	17°♈18'39	
morning rise	4514 May 30 11:36	0°♈38'17			4520 Jan 26 03:51	0°♈	
retrograde	4514 Oct 09 19:46	21°♈24'17		retrograde	4520 Mar 18 10:29	3°♈57'36	
min. Earth dist.	4514 Dec 07 01:46	16°♈31'17	3.94950 AU		4520 May 10 20:53	30°♈	
opposition	4514 Dec 08 09:13	16°♈20'36	-1°-7'-15	opposition	4520 May 18 04:23	29°♈04'03	1°19'09
direct	4515 Feb 04 05:06	11°♈25'23		min. Earth dist.	4520 May 19 03:25	28°♈56'40	4.47563 AU
	4515 Jun 05 17:11	0°♈		direct	4520 Jul 19 21:54	24°♈02'02	
evening set	4515 Jun 10 13:07	1°♈08'26			4520 Sep 25 01:43	0°♈	
				evening set	4520 Nov 22 19:43	11°♈24'42	
conjunction	4515 Jun 24 04:21	4°♈22'58	0°-30'-53	max. Earth dist.	4520 Dec 03 20:27	13°♈47'56	6.45504 AU
minimum elong	4515 Jun 24 04:23	4°♈22'59	0°30'54				
max. Earth dist.	4515 Jun 26 12:23	4°♈56'20	5.99377 AU	conjunction	4520 Dec 05 16:09	14°♈11'39	0°46'52
morning rise	4515 Jul 07 21:50	7°♈38'27		minimum elong	4520 Dec 05 16:11	14°♈11'40	0°46'52
retrograde	4515 Nov 15 04:22	27°♈40'19		morning rise	4520 Dec 18 10:20	16°♈57'36	
min. Earth dist.	4516 Jan 12 04:16	22°♈48'00	4.05713 AU		4521 Feb 25 20:01	0°♈	
opposition	4516 Jan 13 17:03	22°♈35'28	0°-20'-46	retrograde	4521 Apr 18 02:06	3°♈48'34	

	4521 Jun 09 14:36	30° 		retrograde	4526 Oct 15 00:48	26° 	
opposition	4521 Jun 17 23:55	28°  56'23	0°52'25	min. Earth dist.	4526 Dec 12 05:35	21° 	3.96340 AU
min. Earth dist.	4521 Jun 19 11:15	28°  45'06	4.41675 AU	opposition	4526 Dec 13 13:43	21° 	-1°-1'-49
direct	4521 Aug 19 16:28	23°  55'29		direct	4527 Feb 09 11:22	16° 	
	4521 Oct 25 22:42	0° 			4527 May 19 07:00	0° 	
evening set	4521 Dec 23 08:05	11°  36'05		evening set	4527 Jun 15 18:04	6° 	18'45
max. Earth dist.	4522 Jan 02 21:11	13°  56'16	6.36091 AU				
				conjunction	4527 Jun 29 09:51	9° 	0°-26'-24
conjunction	4522 Jan 05 01:47	14°  25'31	0°22'12	minimum elong	4527 Jun 29 09:53	9° 	0°26'26
minimum elong	4522 Jan 05 01:48	14°  25'31	0°22'13	max. Earth dist.	4527 Jul 01 19:30	10° 	6.01280 AU
morning rise	4522 Jan 17 17:43	17°  14'22		morning rise	4527 Jul 13 03:45	12° 	
	4522 Mar 23 18:58	0° 			4527 Oct 09 20:00	0° 	
retrograde	4522 May 20 11:17	4°  46'27		retrograde	4527 Nov 19 22:47	2° 	
	4522 Jul 19 14:23	30° 			4527 Dec 30 22:12	30° 	
opposition	4522 Jul 20 08:51	29°  54'06	0°09'53	min. Earth dist.	4528 Jan 16 23:39	27° 	4.07922 AU
min. Earth dist.	4522 Jul 21 23:05	29°  41'54	4.29248 AU	opposition	4528 Jan 18 12:46	27° 	0°-13'-29
direct	4522 Sep 20 08:00	24°  55'08		direct	4528 Mar 17 01:35	22° 	
desc. node	4522 Oct 09 23:23	25°  30'31		asc. node	4528 Apr 30 05:23	25° 	
	4522 Nov 19 06:33	0° 			4528 May 27 14:25	0° 	
evening set	4523 Jan 23 20:17	13°  10'36		evening set	4528 Jul 21 13:47	11° 	
	4523 Jan 31 19:24	15° 					
max. Earth dist.	4523 Feb 03 12:00	15°  37'08	6.21609 AU	conjunction	4528 Aug 04 06:58	14° 	0°08'25
				minimum elong	4528 Aug 04 06:57	14° 	0°08'24
conjunction	4523 Feb 05 13:25	16°  05'33	0°-9'-54	behind sun begin	4528 Aug 03 23:39	14° 	
minimum elong	4523 Feb 05 13:24	16°  05'33	0°09'56	behind sun end	4528 Aug 04 14:14	14° 	
behind sun begin	4523 Feb 05 06:53	16°  01'49			4528 Aug 05 12:59	15° 	
behind sun end	4523 Feb 05 19:56	16°  09'17		max. Earth dist.	4528 Aug 06 11:21	15° 	6.15538 AU
morning rise	4523 Feb 18 06:22	19°  00'41		morning rise	4528 Aug 18 00:42	17° 	
	4523 Apr 11 04:08	0° 			4528 Oct 15 23:47	0° 	
retrograde	4523 Jun 24 07:36	7°  37'33		retrograde	4528 Dec 22 08:28	6° 	
opposition	4523 Aug 23 22:18	2°  43'29	0°-38'-37	min. Earth dist.	4529 Feb 18 23:40	1° 	4.23345 AU
min. Earth dist.	4523 Aug 25 03:27	2°  34'04	4.13660 AU	opposition	4529 Feb 20 03:26	1° 	0°36'27
	4523 Sep 15 06:53	30° 			4529 Mar 03 04:39	30° 	
direct	4523 Oct 23 15:02	27°  46'53		direct	4529 Apr 20 22:52	26° 	
	4523 Nov 30 10:19	0° 			4529 Jun 08 18:30	0° 	
evening set	4524 Feb 26 04:04	16°  46'41		evening set	4529 Aug 25 11:36	14° 	
conjunction	4524 Mar 09 23:48	19°  49'08	0°-40'-17	conjunction	4529 Sep 08 01:15	17° 	0°38'45
minimum elong	4524 Mar 09 23:46	19°  49'07	0°40'18	minimum elong	4529 Sep 08 01:13	17° 	0°38'46
max. Earth dist.	4524 Mar 08 19:40	19°  32'24	6.06266 AU	max. Earth dist.	4529 Sep 09 09:33	18° 	6.30872 AU
morning rise	4524 Mar 22 20:31	22°  52'26		morning rise	4529 Sep 21 13:28	20° 	
	4524 Apr 23 00:18	0° 			4529 Nov 05 18:16	0° 	
retrograde	4524 Jul 30 12:16	12°  41'44		retrograde	4530 Jan 22 14:39	8° 	
opposition	4524 Sep 28 16:53	7°  44'39	-1°-16'-59	opposition	4530 Mar 23 18:06	3° 	1°11'51
min. Earth dist.	4524 Sep 29 01:57	7°  41'40	3.99930 AU	min. Earth dist.	4530 Mar 23 05:58	3° 	4.37356 AU
direct	4524 Nov 26 21:48	2°  50'15			4530 Apr 20 00:18	30° 	
evening set	4525 Apr 01 16:33	22°  28'49		direct	4530 May 23 20:31	28° 	
					4530 Jun 27 03:49	0° 	
conjunction	4525 Apr 14 17:48	25°  38'40	0°-57'-21	evening set	4530 Sep 27 08:17	15° 	
minimum elong	4525 Apr 14 17:48	25°  38'39	0°57'22				
max. Earth dist.	4525 Apr 14 21:17	25°  40'47	5.95409 AU	conjunction	4530 Oct 10 15:20	18° 	0°56'17
morning rise	4525 Apr 27 21:43	28°  50'02		minimum elong	4530 Oct 10 15:18	18° 	0°56'16
	4525 May 02 18:09	0° 		max. Earth dist.	4530 Oct 10 17:21	18° 	6.42501 AU
	4525 Jul 14 08:41	15° 		morning rise	4530 Oct 23 20:13	21° 	
retrograde	4525 Sep 06 23:45	19°  30'12			4530 Dec 03 18:27	0° 	
	4525 Nov 01 23:24	15° 		retrograde	4531 Feb 21 17:49	8° 	
opposition	4525 Nov 05 19:10	14°  29'16	-1°-27'-4	opposition	4531 Apr 23 04:46	3° 	1°25'34
min. Earth dist.	4525 Nov 05 03:25	14°  34'33	3.93216 AU	min. Earth dist.	4531 Apr 23 12:42	3° 	4.45940 AU
direct	4526 Jan 02 21:53	9°  35'22			4531 May 24 14:56	30° 	
	4526 Mar 02 14:12	15° 		direct	4531 Jun 24 09:51	28° 	
evening set	4526 May 08 23:08	29° 29'13			4531 Jul 25 11:18	0°	
	4526 May 11 02:10	0°			4531 Oct 23 22:53	15°	
				evening set	4531 Oct 28 14:34	15°	
conjunction	4526 May 22 08:28	2° 43'45	0°-52'-14				
minimum elong	4526 May 22 08:30	2° 43'46	0°52'15	conjunction	4531 Nov 10 15:23	18°	0°57'52
max. Earth dist.	4526 May 23 22:54	3° 07'03	5.93463 AU	minimum elong	4531 Nov 10 15:24	18°	0°57'53
morning rise	4526 Jun 04 20:38	5° 59'46		max. Earth dist.	4531 Nov 09 14:41	18°	6.47393 AU

morning rise	4531 Nov 23 13:31	21° \mathbb{M} 33'59			4537 Jun 20 08:25	15° \mathcal{B}	
	4532 Jan 04 07:26	0° \mathcal{Z}		retrograde	4537 Sep 12 09:05	24° \mathcal{B} 47'31	
retrograde	4532 Mar 22 15:25	8° \mathcal{Z} 13'39		min. Earth dist.	4537 Nov 10 08:37	19° \mathcal{B} 52'00	3.93119 AU
opposition	4532 May 22 10:17	3° \mathcal{Z} 20'21	1°16'33	opposition	4537 Nov 11 02:10	19° \mathcal{B} 46'06	-1°-25'-33
min. Earth dist.	4532 May 23 10:40	3° \mathcal{Z} 12'32	4.46965 AU		4537 Dec 30 10:11	15° $\mathcal{R}\mathcal{B}$	
	4532 Jun 20 00:16	30° $\mathcal{R}\mathbb{M}$		direct	4538 Jan 08 03:40	14° \mathcal{B} 52'06	
direct	4532 Jul 24 03:16	28° \mathbb{M} 18'26			4538 Jan 16 20:18	15° \mathcal{B}	
	4532 Aug 27 11:50	0° \mathcal{Z}			4538 Apr 24 02:32	0° \mathbb{I}	
evening set	4532 Nov 27 01:56	15° \mathcal{Z} 43'13		evening set	4538 May 14 04:48	4° \mathbb{I} 45'24	
max. Earth dist.	4532 Dec 08 01:43	18° \mathcal{Z} 06'18	6.44428 AU				
				conjunction	4538 May 27 15:09	8° \mathbb{I} 00'10	0°-49'-40
conjunction	4532 Dec 09 21:57	18° \mathcal{Z} 30'24	0°44'03	minimum elong	4538 May 27 15:11	8° \mathbb{I} 00'12	0°49'41
minimum elong	4532 Dec 09 21:59	18° \mathcal{Z} 30'25	0°44'04	max. Earth dist.	4538 May 29 08:54	8° \mathbb{I} 25'26	5.93998 AU
morning rise	4532 Dec 22 15:36	21° \mathcal{Z} 16'35		morning rise	4538 Jun 10 04:26	11° \mathbb{I} 16'26	
	4533 Feb 03 09:37	0° \mathcal{B}			4538 Sep 15 18:04	0° \mathcal{B}	
retrograde	4533 Apr 22 12:32	8° \mathcal{B} 12'03		retrograde	4538 Oct 20 03:05	1° \mathcal{B} 53'20	
opposition	4533 Jun 22 10:31	3° \mathcal{B} 19'57	0°47'10		4538 Nov 23 07:58	30° $\mathcal{R}\mathbb{I}$	
min. Earth dist.	4533 Jun 23 22:55	3° \mathcal{B} 08'22	4.40183 AU	min. Earth dist.	4538 Dec 17 06:01	27° \mathbb{I} 00'43	3.97457 AU
	4533 Jul 21 02:43	30° $\mathcal{R}\mathcal{Z}$		opposition	4538 Dec 18 16:10	26° \mathbb{I} 49'06	0°-55'-59
direct	4533 Aug 24 01:45	28° \mathcal{Z} 19'19		direct	4539 Feb 14 13:30	21° \mathbb{I} 53'12	
	4533 Sep 26 23:56	0° \mathcal{B}			4539 Apr 29 15:31	0° \mathcal{B}	
evening set	4533 Dec 27 16:39	16° \mathcal{B} 04'01		evening set	4539 Jun 20 22:45	11° \mathcal{B} 26'48	
max. Earth dist.	4534 Jan 07 04:11	18° \mathcal{B} 24'00	6.34286 AU				
				conjunction	4539 Jul 04 15:01	14° \mathcal{B} 40'11	0°-21'-46
conjunction	4534 Jan 09 09:59	18° \mathcal{B} 54'03	0°17'56	minimum elong	4539 Jul 04 15:02	14° \mathcal{B} 40'12	0°21'47
minimum elong	4534 Jan 09 10:00	18° \mathcal{B} 54'04	0°17'57	max. Earth dist.	4539 Jul 06 23:42	15° \mathcal{B} 13'36	6.02859 AU
morning rise	4534 Jan 22 02:02	21° \mathcal{B} 43'38		morning rise	4539 Jul 18 09:21	17° \mathcal{B} 54'19	
	4534 Mar 02 05:35	0° \approx			4539 Sep 12 16:58	0° \mathcal{I}	
retrograde	4534 May 25 05:23	9° \approx 23'27		retrograde	4539 Nov 24 18:10	7° \mathcal{I} 37'21	
opposition	4534 Jul 25 02:08	4° \approx 30'54	0°03'05	min. Earth dist.	4540 Jan 21 20:22	2° \mathcal{I} 44'57	4.09769 AU
min. Earth dist.	4534 Jul 26 15:29	4° \approx 18'57	4.27233 AU	opposition	4540 Jan 23 08:15	2° \mathcal{I} 32'44	0°-6'-8
desc. node	4534 Aug 19 09:38	1° \approx 30'15			4540 Feb 12 01:27	30° $\mathcal{R}\mathcal{B}$	
	4534 Sep 07 14:02	30° $\mathcal{R}\mathcal{B}$		asc. node	4540 Mar 10 04:37	27° \mathcal{B} 48'14	
direct	4534 Sep 24 21:50	29° \mathcal{B} 32'11		direct	4540 Mar 22 01:20	27° \mathcal{B} 33'57	
	4534 Oct 12 05:39	0° \approx			4540 Apr 30 04:54	0° \mathcal{I}	
	4535 Jan 15 15:44	15° \approx			4540 Jul 20 01:53	15° \mathcal{I}	
evening set	4535 Jan 28 09:39	17° \approx 53'08		evening set	4540 Jul 26 13:25	16° \mathcal{I} 27'41	
max. Earth dist.	4535 Feb 08 04:57	20° \approx 22'22	6.19549 AU				
				conjunction	4540 Aug 09 06:34	19° \mathcal{I} 34'43	0°13'11
conjunction	4535 Feb 10 03:05	20° \approx 49'01	0°-14'-32	minimum elong	4540 Aug 09 06:33	19° \mathcal{I} 34'43	0°13'10
minimum elong	4535 Feb 10 03:04	20° \approx 49'00	0°14'33	behind sun begin	4540 Aug 09 01:48	19° \mathcal{I} 32'01	
behind sun begin	4535 Feb 09 23:22	20° \approx 46'53		behind sun end	4540 Aug 09 11:18	19° \mathcal{I} 37'24	
behind sun end	4535 Feb 10 06:45	20° \approx 51'07		max. Earth dist.	4540 Aug 11 10:11	20° \mathcal{I} 04'06	6.17508 AU
morning rise	4535 Feb 22 20:11	23° \approx 45'05		morning rise	4540 Aug 22 23:43	22° \mathcal{I} 41'29	
	4535 Mar 22 19:56	0° \mathcal{H}			4540 Sep 25 16:21	0° \mathcal{H}	
retrograde	4535 Jun 29 09:19	12° \mathcal{H} 31'22		retrograde	4540 Dec 26 20:48	11° \mathcal{H} 12'35	
opposition	4535 Aug 28 22:41	7° \mathcal{H} 36'58	0°-45'-2	opposition	4541 Feb 24 16:12	6° \mathcal{H} 10'13	0°42'33
min. Earth dist.	4535 Aug 30 01:46	7° \mathcal{H} 28'12	4.11705 AU	min. Earth dist.	4541 Feb 23 13:45	6° \mathcal{H} 19'07	4.25256 AU
direct	4535 Oct 28 10:26	2° \mathcal{H} 40'44		direct	4541 Apr 25 14:50	1° \mathcal{H} 09'10	
evening set	4536 Mar 02 00:04	21° \mathcal{H} 45'56		evening set	4541 Aug 30 05:18	19° \mathcal{H} 20'29	
conjunction	4536 Mar 14 20:11	24° \mathcal{H} 49'20	0°-43'-44	conjunction	4541 Sep 12 17:59	22° \mathcal{H} 19'09	0°42'07
minimum elong	4536 Mar 14 20:10	24° \mathcal{H} 49'19	0°43'46	minimum elong	4541 Sep 12 17:58	22° \mathcal{H} 19'08	0°42'07
max. Earth dist.	4536 Mar 13 18:39	24° \mathcal{H} 34'05	6.04566 AU	max. Earth dist.	4541 Sep 13 21:09	22° \mathcal{H} 34'07	6.32578 AU
morning rise	4536 Mar 27 17:51	27° \mathcal{H} 53'45		morning rise	4541 Sep 26 05:26	25° \mathcal{H} 16'53	
	4536 Apr 05 16:03	0° \mathcal{Y}			4541 Oct 18 06:50	0° \mathcal{L}	
retrograde	4536 Aug 04 18:26	17° \mathcal{Y} 51'21		retrograde	4542 Jan 26 22:52	12° \mathcal{L} 45'39	
opposition	4536 Oct 03 22:45	12° \mathcal{Y} 53'44	-1°-20'-24	opposition	4542 Mar 28 02:23	7° \mathcal{L} 46'48	1°15'10
min. Earth dist.	4536 Oct 04 04:02	12° \mathcal{Y} 52'00	3.98649 AU	min. Earth dist.	4542 Mar 27 17:21	7° \mathcal{L} 49'47	4.38765 AU
direct	4536 Dec 01 23:17	7° \mathcal{Y} 59'30		direct	4542 May 28 09:09	2° \mathcal{L} 44'34	
evening set	4537 Apr 06 18:35	27° \mathcal{Y} 41'22		evening set	4542 Oct 01 20:19	20° \mathcal{L} 23'28	
	4537 Apr 16 07:22	0° \mathcal{B}					
				conjunction	4542 Oct 15 02:38	23° \mathcal{L} 15'03	0°57'29
conjunction	4537 Apr 19 20:58	0° \mathcal{B} 52'03	0°-58'-3	minimum elong	4542 Oct 15 02:37	23° \mathcal{L} 15'02	0°57'29
minimum elong	4537 Apr 19 20:58	0° \mathcal{B} 52'03	0°58'04	max. Earth dist.	4542 Oct 15 02:26	23° \mathcal{L} 14'56	6.43541 AU
max. Earth dist.	4537 Apr 20 06:33	0° \mathcal{B} 57'52	5.94675 AU	morning rise	4542 Oct 28 06:22	26° \mathcal{L} 05'19	
morning rise	4537 May 03 01:49	4° \mathcal{B} 04'13			4542 Nov 15 19:33	0° \mathbb{M}	

retrograde	4543 Feb 25 22:20	12°♄55'15		conjunction	4549 Apr 24 19:50	5°♄54'14	0°-58'-17
opposition	4543 Apr 27 11:13	7°♄59'51	1°25'38	minimum elong	4549 Apr 24 19:50	5°♄54'14	0°58'19
min. Earth dist.	4543 Apr 27 20:17	7°♄56'54	4.46594 AU	max. Earth dist.	4549 Apr 25 08:08	6°♄01'43	5.93871 AU
direct	4543 Jun 28 17:18	2°♄57'32		morning rise	4549 May 08 01:58	9°♄07'20	
	4543 Oct 07 06:12	15°♄			4549 Jun 01 23:55	15°♄	
evening set	4543 Nov 01 22:47	20°♄20'06		retrograde	4549 Sep 17 11:43	29°♄53'54	
				min. Earth dist.	4549 Nov 15 07:43	24°♄58'58	3.92817 AU
conjunction	4543 Nov 14 22:41	23°♄07'36	0°56'49	opposition	4549 Nov 16 04:12	24°♄52'04	-1°-23'-29
minimum elong	4543 Nov 14 22:42	23°♄07'36	0°56'49	direct	4550 Jan 13 02:22	19°♄57'54	
max. Earth dist.	4543 Nov 13 19:02	22°♄52'42	6.47637 AU		4550 Apr 06 01:21	0°♄	
morning rise	4543 Nov 27 20:06	25°♄53'53		evening set	4550 May 19 06:54	9°♄51'55	
	4543 Dec 17 08:39	0°♄					
retrograde	4544 Mar 26 22:57	12°♄33'15		conjunction	4550 Jun 01 18:19	13°♄07'06	0°-46'-51
opposition	4544 May 26 17:45	7°♄40'14	1°13'33	minimum elong	4550 Jun 01 18:21	13°♄07'07	0°46'52
min. Earth dist.	4544 May 27 20:31	7°♄31'40	4.46800 AU	max. Earth dist.	4550 Jun 03 13:53	13°♄33'26	5.94224 AU
direct	4544 Jul 28 12:36	2°♄38'30		morning rise	4550 Jun 15 08:41	16°♄23'43	
evening set	4544 Dec 01 08:19	20°♄03'37			4550 Aug 17 00:30	0°♄	
max. Earth dist.	4544 Dec 12 05:31	22°♄25'34	6.43869 AU	retrograde	4550 Oct 25 03:19	6°♄57'56	
				min. Earth dist.	4550 Dec 22 04:59	2°♄05'16	3.98173 AU
conjunction	4544 Dec 14 03:46	22°♄50'47	0°41'04	opposition	4550 Dec 23 15:33	1°♄53'29	0°-50'00
minimum elong	4544 Dec 14 03:47	22°♄50'48	0°41'04		4551 Jan 06 22:10	30°♄	
morning rise	4544 Dec 26 20:59	25°♄37'02		direct	4551 Feb 19 14:46	26°♄57'11	
	4545 Jan 16 11:32	0°♄			4551 Apr 03 23:35	0°♄	
retrograde	4545 Apr 26 21:42	12°♄35'19		evening set	4551 Jun 26 01:00	16°♄28'31	
opposition	4545 Jun 26 20:43	7°♄43'11	0°41'47				
min. Earth dist.	4545 Jun 28 08:56	7°♄31'39	4.39263 AU	conjunction	4551 Jul 09 18:00	19°♄41'40	0°-17'-7
direct	4545 Aug 28 10:03	2°♄42'45		minimum elong	4551 Jul 09 18:01	19°♄41'40	0°17'08
evening set	4545 Dec 31 23:45	20°♄29'34		max. Earth dist.	4551 Jul 12 04:38	20°♄16'08	6.04019 AU
max. Earth dist.	4546 Jan 11 12:36	22°♄50'38	6.33078 AU	morning rise	4551 Jul 23 12:32	22°♄55'21	
					4551 Aug 23 23:18	0°♄	
conjunction	4546 Jan 13 16:55	23°♄19'57	0°13'43	retrograde	4551 Nov 29 12:57	12°♄31'19	
minimum elong	4546 Jan 13 16:56	23°♄19'58	0°13'43	asc. node	4552 Jan 20 09:37	8°♄29'12	
behind sun begin	4546 Jan 13 12:33	23°♄17'31		min. Earth dist.	4552 Jan 26 14:43	7°♄38'57	4.11243 AU
behind sun end	4546 Jan 13 21:19	23°♄22'24		opposition	4552 Jan 28 02:14	7°♄26'53	0°01'01
morning rise	4546 Jan 26 08:42	26°♄09'57		direct	4552 Mar 26 21:48	2°♄27'46	
	4546 Feb 12 20:00	0°♄			4552 Jul 02 20:27	15°♄	
retrograde	4546 May 29 20:34	13°♄55'29		evening set	4552 Jul 31 12:24	21°♄17'31	
desc. node	4546 Jul 01 02:56	12°♄21'21					
opposition	4546 Jul 29 17:03	9°♄02'46	0°-3'-28	conjunction	4552 Aug 14 05:09	24°♄23'40	0°17'44
min. Earth dist.	4546 Jul 31 06:19	8°♄50'51	4.25792 AU	minimum elong	4552 Aug 14 05:07	24°♄23'39	0°17'44
direct	4546 Sep 29 10:03	4°♄04'21		max. Earth dist.	4552 Aug 16 05:47	24°♄51'15	6.19164 AU
	4546 Dec 29 19:54	15°♄		morning rise	4552 Aug 27 21:59	27°♄29'29	
evening set	4547 Feb 01 20:00	22°♄28'51			4552 Sep 08 04:19	0°♄	
max. Earth dist.	4547 Feb 12 15:25	24°♄58'43	6.17979 AU	retrograde	4552 Dec 31 07:53	15°♄52'34	
				min. Earth dist.	4553 Feb 28 03:38	10°♄58'52	4.26951 AU
conjunction	4547 Feb 14 13:23	25°♄25'22	0°-18'-52	opposition	4553 Mar 01 04:27	10°♄50'31	0°48'15
minimum elong	4547 Feb 14 13:22	25°♄25'22	0°18'53	direct	4553 Apr 30 07:12	5°♄49'12	
morning rise	4547 Feb 27 06:58	28°♄22'15		evening set	4553 Sep 03 22:21	23°♄56'18	
	4547 Mar 06 09:19	0°♄					
retrograde	4547 Jul 04 05:22	17°♄16'26		conjunction	4553 Sep 17 10:25	26°♄53'59	0°45'09
opposition	4547 Sep 02 19:09	12°♄21'35	0°-50'-51	minimum elong	4553 Sep 17 10:23	26°♄53'58	0°45'08
min. Earth dist.	4547 Sep 03 19:44	12°♄13'36	4.10115 AU	max. Earth dist.	4553 Sep 18 11:46	27°♄07'55	6.34186 AU
direct	4547 Nov 02 02:31	7°♄25'33		morning rise	4553 Sep 30 20:42	29°♄50'36	
evening set	4548 Mar 06 15:42	26°♄35'03			4553 Oct 01 13:57	0°♄	
				retrograde	4554 Jan 31 05:30	17°♄12'50	
conjunction	4548 Mar 19 12:32	29°♄39'21	0°-46'-43	opposition	4554 Apr 01 10:30	12°♄14'27	1°17'59
minimum elong	4548 Mar 19 12:31	29°♄39'20	0°46'44	min. Earth dist.	4554 Apr 01 03:10	12°♄16'52	4.40156 AU
max. Earth dist.	4548 Mar 18 15:23	29°♄26'41	6.03105 AU	direct	4554 Jun 01 20:35	7°♄12'10	
	4548 Mar 20 23:02	0°♄		evening set	4554 Oct 06 07:36	24°♄47'42	
morning rise	4548 Apr 01 10:46	2°♄44'43					
retrograde	4548 Aug 09 22:03	22°♄49'47		conjunction	4554 Oct 19 12:47	27°♄38'27	0°58'19
opposition	4548 Oct 08 23:48	17°♄51'42	-1°-23'-4	minimum elong	4554 Oct 19 12:46	27°♄38'27	0°58'20
min. Earth dist.	4548 Oct 09 03:36	17°♄50'27	3.97463 AU	max. Earth dist.	4554 Oct 19 07:49	27°♄35'46	6.44575 AU
direct	4548 Dec 06 21:34	12°♄57'34			4554 Oct 30 11:34	0°♄	
	4549 Mar 31 08:58	0°♄		morning rise	4554 Nov 01 15:41	0°♄27'57	
evening set	4549 Apr 11 16:30	2°♄42'44			4555 Jan 22 14:34	15°♄	
				retrograde	4555 Mar 02 04:18	17°♄14'24	






























































































































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opposition	4555 May 01 17:30	12° \mathbb{M} 19'20	1°25'12				
min. Earth dist.	4555 May 02 05:44	12° \mathbb{M} 15'23	4.47191 AU	conjunction	4561 Apr 30 02:04	11° \mathbb{B} 14'50	0°-58'-4
direct	4555 Jul 03 03:03	7° \mathbb{M} 17'00		minimum elong	4561 Apr 30 02:05	11° \mathbb{B} 14'51	0°58'05
	4555 Sep 18 17:18	15° \mathbb{M}		max. Earth dist.	4561 Apr 30 19:19	11° \mathbb{B} 25'21	5.93113 AU
evening set	4555 Nov 06 05:58	24° \mathbb{M} 38'17		morning rise	4561 May 13 09:25	14° \mathbb{B} 28'51	
max. Earth dist.	4555 Nov 17 23:40	27° \mathbb{M} 09'32	6.47721 AU		4561 May 15 13:01	15° \mathbb{B}	
					4561 Jul 25 08:46	0° \mathbb{I}	
conjunction	4555 Nov 19 05:15	27° \mathbb{M} 25'28	0°55'25	retrograde	4561 Sep 22 21:32	5° \mathbb{I} 18'06	
minimum elong	4555 Nov 19 05:16	27° \mathbb{M} 25'29	0°55'25	opposition	4561 Nov 21 12:59	0° \mathbb{I} 15'47	-1°-20'-34
	4555 Dec 01 04:27	0° \mathbb{J}		min. Earth dist.	4561 Nov 20 14:06	0° \mathbb{I} 23'31	3.92799 AU
morning rise	4555 Dec 02 01:46	0° \mathbb{J} 11'25			4561 Nov 23 11:44	30° \mathbb{R} \mathbb{B}	
retrograde	4556 Mar 31 04:07	16° \mathbb{J} 51'07		direct	4562 Jan 18 10:17	25° \mathbb{B} 21'29	
opposition	4556 May 31 00:44	11° \mathbb{J} 58'17	1°10'07		4562 Mar 13 08:51	0° \mathbb{I}	
min. Earth dist.	4556 Jun 01 04:26	11° \mathbb{J} 49'26	4.46351 AU	evening set	4562 May 24 15:30	15° \mathbb{I} 14'44	
direct	4556 Aug 01 18:58	6° \mathbb{J} 56'42					
evening set	4556 Dec 05 14:32	24° \mathbb{J} 23'15		conjunction	4562 Jun 07 04:06	18° \mathbb{I} 30'06	0°-43'-29
max. Earth dist.	4556 Dec 16 09:34	26° \mathbb{J} 44'23	6.42898 AU	minimum elong	4562 Jun 07 04:08	18° \mathbb{I} 30'08	0°43'30
				max. Earth dist.	4562 Jun 09 04:50	18° \mathbb{I} 59'29	5.94975 AU
conjunction	4556 Dec 18 09:26	27° \mathbb{J} 10'34	0°37'47	morning rise	4562 Jun 20 19:18	21° \mathbb{I} 46'46	
minimum elong	4556 Dec 18 09:27	27° \mathbb{J} 10'35	0°37'48		4562 Jul 26 15:14	0° \mathbb{B}	
morning rise	4556 Dec 31 02:17	29° \mathbb{J} 57'04		retrograde	4562 Oct 30 08:18	12° \mathbb{B} 15'17	
	4556 Dec 31 07:41	0° \mathbb{B}		min. Earth dist.	4562 Dec 27 07:31	7° \mathbb{B} 22'53	3.99623 AU
retrograde	4557 May 01 09:49	16° \mathbb{B} 59'51		opposition	4562 Dec 28 19:20	7° \mathbb{B} 10'41	0°-43'-18
opposition	4557 Jul 01 08:03	12° \mathbb{B} 07'47	0°36'01	direct	4563 Feb 24 20:07	2° \mathbb{B} 14'03	
min. Earth dist.	4557 Jul 02 22:04	11° \mathbb{B} 55'40	4.37796 AU	evening set	4563 Jul 01 07:29	21° \mathbb{B} 40'08	
direct	4557 Sep 01 20:19	7° \mathbb{B} 07'36					
evening set	4558 Jan 05 08:08	24° \mathbb{B} 58'30		conjunction	4563 Jul 15 00:37	24° \mathbb{B} 52'27	0°-12'-10
max. Earth dist.	4558 Jan 15 19:30	27° \mathbb{B} 19'23	6.31217 AU	minimum elong	4563 Jul 15 00:38	24° \mathbb{B} 52'27	0°12'11
				behind sun begin	4563 Jul 14 19:07	24° \mathbb{B} 49'14	
conjunction	4558 Jan 18 01:09	27° \mathbb{B} 49'34	0°09'17	behind sun end	4563 Jul 15 06:10	24° \mathbb{B} 55'40	
minimum elong	4558 Jan 18 01:09	27° \mathbb{B} 49'34	0°09'17	max. Earth dist.	4563 Jul 17 10:47	25° \mathbb{B} 26'27	6.06026 AU
behind sun begin	4558 Jan 17 18:25	27° \mathbb{B} 45'48		morning rise	4563 Jul 28 19:26	28° \mathbb{B} 05'15	
behind sun end	4558 Jan 18 07:53	27° \mathbb{B} 53'20			4563 Aug 06 02:43	0° \mathbb{Q}	
	4558 Jan 27 17:06	0° \mathbb{A}			4563 Oct 25 06:34	15° \mathbb{Q}	
morning rise	4558 Jan 30 17:04	0° \mathbb{A} 40'20		asc. node	4563 Nov 29 21:54	17° \mathbb{Q} 28'37	
	4558 Apr 15 07:20	15° \mathbb{A}		retrograde	4563 Dec 04 06:15	17° \mathbb{Q} 30'32	
desc. node	4558 May 10 21:32	17° \mathbb{A} 42'11			4564 Jan 13 02:23	15° \mathbb{R} \mathbb{Q}	
retrograde	4558 Jun 03 14:39	18° \mathbb{A} 34'19		min. Earth dist.	4564 Jan 31 10:19	12° \mathbb{Q} 38'14	4.13589 AU
	4558 Jul 24 02:20	15° \mathbb{R} \mathbb{A}		opposition	4564 Feb 01 21:40	12° \mathbb{Q} 26'13	0°08'19
opposition	4558 Aug 03 11:00	13° \mathbb{A} 41'22	0°-10'-19	direct	4564 Mar 31 20:53	7° \mathbb{Q} 26'42	
min. Earth dist.	4558 Aug 04 22:39	13° \mathbb{A} 29'57	4.23648 AU		4564 Jun 12 22:18	15° \mathbb{Q}	
direct	4558 Oct 03 23:06	8° \mathbb{A} 43'17		evening set	4564 Aug 05 11:41	26° \mathbb{Q} 09'15	
	4558 Dec 09 16:18	15° \mathbb{A}					
evening set	4559 Feb 06 10:03	27° \mathbb{A} 14'01		conjunction	4564 Aug 19 04:02	29° \mathbb{Q} 14'06	0°22'14
max. Earth dist.	4559 Feb 17 09:09	29° \mathbb{A} 46'45	6.15735 AU	minimum elong	4564 Aug 19 04:01	29° \mathbb{Q} 14'05	0°22'15
	4559 Feb 18 07:53	0° \mathbb{H}		max. Earth dist.	4564 Aug 21 02:52	29° \mathbb{Q} 40'30	6.21659 AU
					4564 Aug 22 13:26	0° \mathbb{P}	
conjunction	4559 Feb 19 03:48	0° \mathbb{H} 11'36	0°-23'-19	morning rise	4564 Sep 01 19:59	2° \mathbb{P} 18'27	
minimum elong	4559 Feb 19 03:47	0° \mathbb{H} 11'35	0°23'19	retrograde	4565 Jan 04 18:18	20° \mathbb{P} 30'46	
morning rise	4559 Mar 03 21:42	3° \mathbb{H} 09'36		opposition	4565 Mar 05 15:58	15° \mathbb{P} 29'10	0°53'36
retrograde	4559 Jul 09 09:38	22° \mathbb{H} 14'23		min. Earth dist.	4565 Mar 04 17:32	15° \mathbb{P} 36'40	4.29357 AU
opposition	4559 Sep 07 20:57	17° \mathbb{H} 19'13	0°-56'-42	direct	4565 May 05 00:13	10° \mathbb{P} 27'37	
min. Earth dist.	4559 Sep 08 20:11	17° \mathbb{H} 11'40	4.07949 AU	evening set	4565 Sep 08 13:26	28° \mathbb{P} 28'09	
direct	4559 Nov 07 00:08	12° \mathbb{H} 23'32			4565 Sep 15 13:54	0° \mathbb{U}	
	4560 Mar 04 13:42	0° \mathbb{Y}					
evening set	4560 Mar 11 13:36	1° \mathbb{Y} 39'34		conjunction	4565 Sep 22 00:26	1° \mathbb{U} 24'33	0°47'53
				minimum elong	4565 Sep 22 00:24	1° \mathbb{U} 24'32	0°47'52
conjunction	4560 Mar 24 11:07	4° \mathbb{Y} 45'02	0°-49'-33	max. Earth dist.	4565 Sep 22 21:03	1° \mathbb{U} 35'49	6.36299 AU
minimum elong	4560 Mar 24 11:05	4° \mathbb{Y} 45'01	0°49'33	morning rise	4565 Oct 05 09:45	4° \mathbb{U} 19'52	
max. Earth dist.	4560 Mar 23 16:51	4° \mathbb{Y} 34'04	6.01212 AU	retrograde	4566 Feb 04 09:08	21° \mathbb{U} 34'25	
morning rise	4560 Apr 06 10:26	7° \mathbb{Y} 51'43		opposition	4566 Apr 05 16:15	16° \mathbb{U} 36'26	1°20'16
retrograde	4560 Aug 15 07:00	28° \mathbb{Y} 05'46		min. Earth dist.	4566 Apr 05 11:46	16° \mathbb{U} 37'54	4.41842 AU
opposition	4560 Oct 14 07:30	23° \mathbb{Y} 07'13	-1°-25'-17	direct	4566 Jun 06 06:40	11° \mathbb{U} 34'00	
min. Earth dist.	4560 Oct 14 07:02	23° \mathbb{Y} 07'22	3.96068 AU	evening set	4566 Oct 10 15:50	29° \mathbb{U} 05'28	
direct	4560 Dec 11 23:40	18° \mathbb{Y} 13'14			4566 Oct 14 21:41	0° \mathbb{M}	
	4561 Mar 13 08:55	0° \mathbb{B}					

conjunction	4566 Oct 23 20:13	1°♄55'25	0°58'49	morning rise	4572 Apr 11 13:16	13°♃05'49	
minimum elong	4566 Oct 23 20:12	1°♄55'25	0°58'49		4572 Jul 04 01:18	0°♄	
max. Earth dist.	4566 Oct 23 12:15	1°♄51'08	6.45710 AU	retrograde	4572 Aug 20 19:47	3°♄28'48	
morning rise	4566 Nov 05 21:56	4°♄44'03			4572 Oct 08 06:01	30°♄	
	4566 Dec 28 00:52	15°♄		opposition	4572 Oct 19 18:19	28°♃29'40	-1°-26'-48
retrograde	4567 Mar 06 05:54	21°♄27'07		min. Earth dist.	4572 Oct 19 14:27	28°♃30'57	3.94825 AU
opposition	4567 May 05 21:07	16°♄32'25	1°24'19	direct	4572 Dec 17 07:09	23°♃35'47	
min. Earth dist.	4567 May 06 11:41	16°♄27'43	4.47709 AU		4573 Feb 19 19:24	0°♄	
	4567 May 18 00:13	15°♄		evening set	4573 Apr 22 05:46	13°♄28'05	
direct	4567 Jul 07 08:58	11°♄30'07			4573 Apr 28 13:13	15°♄	
	4567 Aug 26 16:03	15°♄					
evening set	4567 Nov 10 10:30	28°♄50'30		conjunction	4573 May 05 11:32	16°♄41'16	0°-57'-20
	4567 Nov 15 20:07	0°♄		minimum elong	4573 May 05 11:33	16°♄41'17	0°57'21
max. Earth dist.	4567 Nov 21 22:22	1°♄18'48	6.47562 AU	max. Earth dist.	4573 May 06 11:29	16°♄55'52	5.92687 AU
				morning rise	4573 May 18 20:03	19°♄56'03	
conjunction	4567 Nov 23 08:55	1°♄37'26	0°53'45		4573 Jul 01 19:49	0°♄	
minimum elong	4567 Nov 23 08:56	1°♄37'26	0°53'46	retrograde	4573 Sep 28 09:23	10°♄45'40	
morning rise	4567 Dec 06 04:56	4°♄23'14		opposition	4573 Nov 26 23:07	5°♄42'55	-1°-16'-52
retrograde	4568 Apr 04 10:03	21°♄04'23		min. Earth dist.	4573 Nov 25 21:17	5°♄51'39	3.93261 AU
opposition	4568 Jun 04 06:21	16°♄11'42	1°06'23	direct	4574 Jan 23 19:25	0°♄48'24	
min. Earth dist.	4568 Jun 05 13:07	16°♄01'52	4.45520 AU	evening set	4574 May 30 01:32	20°♄38'55	
direct	4568 Aug 06 01:33	11°♄10'10					
evening set	4568 Dec 09 18:57	28°♄39'20		conjunction	4574 Jun 12 14:52	23°♄54'05	0°-39'-42
	4568 Dec 15 22:47	0°♄		minimum elong	4574 Jun 12 14:55	23°♄54'06	0°39'44
max. Earth dist.	4568 Dec 20 11:49	0°♄59'46	6.41444 AU	max. Earth dist.	4574 Jun 14 17:41	24°♄24'35	5.96229 AU
				morning rise	4574 Jun 26 07:04	27°♄10'30	
conjunction	4568 Dec 22 13:37	1°♄27'06	0°34'21		4574 Jul 08 06:33	0°♄	
minimum elong	4568 Dec 22 13:39	1°♄27'06	0°34'21	retrograde	4574 Nov 04 09:58	17°♄31'05	
morning rise	4569 Jan 04 06:08	4°♄14'02		min. Earth dist.	4575 Jan 01 09:22	12°♄39'00	4.01502 AU
retrograde	4569 May 05 20:00	21°♄23'06		opposition	4575 Jan 02 22:36	12°♄26'18	0°-36'-14
opposition	4569 Jul 05 18:54	16°♄30'57	0°30'07	direct	4575 Mar 02 01:26	7°♄29'14	
min. Earth dist.	4569 Jul 07 08:46	16°♄18'53	4.35804 AU	evening set	4575 Jul 06 13:02	26°♄48'46	
direct	4569 Sep 06 03:31	11°♄30'59					
evening set	4570 Jan 09 16:47	29°♄27'48		conjunction	4575 Jul 20 06:27	0°♄00'06	0°-7'-9
	4570 Jan 12 02:11	0°♄		minimum elong	4575 Jul 20 06:26	0°♄00'06	0°07'11
max. Earth dist.	4570 Jan 20 04:51	1°♄49'50	6.28838 AU	behind sun begin	4575 Jul 19 22:45	29°♄55'38	
				behind sun end	4575 Jul 20 14:08	0°♄04'33	
conjunction	4570 Jan 22 09:46	2°♄19'47	0°04'49		4575 Jul 20 06:15	0°♄	
minimum elong	4570 Jan 22 09:46	2°♄19'47	0°04'50	max. Earth dist.	4575 Jul 22 16:34	0°♄33'54	6.08341 AU
behind sun begin	4570 Jan 22 02:00	2°♄15'25		morning rise	4575 Aug 03 01:00	3°♄11'43	
behind sun end	4570 Jan 22 17:32	2°♄24'10			4575 Sep 27 18:35	15°♄	
morning rise	4570 Feb 04 01:50	5°♄11'35		asc. node	4575 Oct 08 23:26	16°♄56'15	
desc. node	4570 Mar 21 02:24	14°♄42'53		retrograde	4575 Dec 09 00:16	22°♄25'42	
	4570 Mar 22 14:43	15°♄		min. Earth dist.	4576 Feb 05 06:39	17°♄32'59	4.16076 AU
retrograde	4570 Jun 08 12:22	23°♄15'55		opposition	4576 Feb 06 15:57	17°♄21'42	0°15'30
opposition	4570 Aug 08 06:28	18°♄22'46	0°-17'-9		4576 Feb 24 20:51	15°♄	
min. Earth dist.	4570 Aug 09 18:07	18°♄11'19	4.21029 AU	direct	4576 Apr 05 20:35	12°♄21'53	
	4570 Sep 06 06:32	15°♄			4576 May 17 02:01	15°♄	
direct	4570 Oct 08 14:58	13°♄24'59			4576 Aug 06 02:54	0°♄	
	4570 Nov 09 17:13	15°♄		evening set	4576 Aug 10 09:46	0°♄57'14	
	4571 Feb 02 03:38	0°♄					
evening set	4571 Feb 11 02:00	2°♄03'37		conjunction	4576 Aug 24 01:30	4°♄00'46	0°26'35
max. Earth dist.	4571 Feb 22 03:22	4°♄38'34	6.13102 AU	minimum elong	4576 Aug 24 01:28	4°♄00'45	0°26'34
				max. Earth dist.	4576 Aug 25 21:22	4°♄25'21	6.24101 AU
conjunction	4571 Feb 23 20:11	5°♄02'29	0°-27'-37	morning rise	4576 Sep 06 16:41	7°♄03'42	
minimum elong	4571 Feb 23 20:09	5°♄02'28	0°27'39	retrograde	4577 Jan 09 02:05	25°♄06'01	
morning rise	4571 Mar 08 14:49	8°♄01'54		min. Earth dist.	4577 Mar 09 05:41	20°♄11'49	4.31572 AU
retrograde	4571 Jul 14 15:12	27°♄18'44		opposition	4577 Mar 10 02:17	20°♄04'56	0°58'37
opposition	4571 Sep 13 01:34	22°♄23'09	-1°-2'-14	direct	4577 May 09 14:32	15°♄03'14	
min. Earth dist.	4571 Sep 13 20:47	22°♄16'54	4.05552 AU		4577 Aug 30 06:45	0°♄	
direct	4571 Nov 11 22:08	17°♄27'50		evening set	4577 Sep 13 03:45	2°♄58'20	
	4572 Feb 16 00:43	0°♄					
evening set	4572 Mar 16 14:34	6°♄51'05		conjunction	4577 Sep 26 13:50	5°♄53'36	0°50'21
				minimum elong	4577 Sep 26 13:49	5°♄53'35	0°50'22
conjunction	4572 Mar 29 12:56	9°♄57'49	0°-52'-1	max. Earth dist.	4577 Sep 27 06:08	6°♄02'30	6.38131 AU
minimum elong	4572 Mar 29 12:55	9°♄57'48	0°52'02	morning rise	4577 Oct 09 22:01	8°♄47'45	
max. Earth dist.	4572 Mar 29 00:17	9°♄50'11	5.99281 AU	retrograde	4578 Feb 08 14:24	25°♄55'59	

opposition	4578 Apr 09 22:16	20°♄58'35	1°22'12	conjunction	4584 Apr 03 15:47	15°♃12'54	0°-54'-7
min. Earth dist.	4578 Apr 09 21:09	20°♄58'57	4.43181 AU	minimum elong	4584 Apr 03 15:46	15°♃12'54	0°54'09
direct	4578 Jun 10 17:21	15°♄56'10		max. Earth dist.	4584 Apr 03 09:06	15°♃08'52	5.97978 AU
	4578 Sep 28 18:55	0°♄		morning rise	4584 Apr 16 17:05	18°♃21'57	
evening set	4578 Oct 15 00:20	3°♄24'50			4584 Jun 07 19:41	0°♄	
				retrograde	4584 Aug 26 06:36	8°♄50'39	
conjunction	4578 Oct 28 03:44	6°♄14'09	0°59'02	opposition	4584 Oct 25 03:57	3°♄50'58	-1°-27'-34
minimum elong	4578 Oct 28 03:44	6°♄14'09	0°59'02	min. Earth dist.	4584 Oct 24 20:17	3°♄53'31	3.94263 AU
max. Earth dist.	4578 Oct 27 14:36	6°♄07'05	6.46448 AU		4584 Nov 27 13:26	30°♄	
morning rise	4578 Nov 10 04:40	9°♄02'11		direct	4584 Dec 22 12:49	28°♄57'10	
	4578 Dec 09 00:08	15°♄			4585 Jan 16 10:54	0°♄	
retrograde	4579 Mar 10 10:04	25°♄43'23			4585 Apr 11 11:27	15°♄	
opposition	4579 May 10 02:17	20°♄49'03	1°23'02	evening set	4585 Apr 27 12:33	18°♄49'53	
min. Earth dist.	4579 May 10 19:38	20°♄43'27	4.47831 AU				
direct	4579 Jul 11 16:02	15°♄46'48		conjunction	4585 May 10 19:13	22°♄03'27	0°-56'-9
	4579 Oct 30 21:21	0°♄		minimum elong	4585 May 10 19:14	22°♄03'28	0°56'10
evening set	4579 Nov 14 16:26	3°♄07'33		max. Earth dist.	4585 May 11 22:45	22°♄20'12	5.92894 AU
max. Earth dist.	4579 Nov 26 02:02	5°♄34'49	6.47061 AU	morning rise	4585 May 24 05:00	25°♄18'39	
					4585 Jun 12 23:26	0°♄	
conjunction	4579 Nov 27 14:22	5°♄54'27	0°51'48	retrograde	4585 Oct 03 15:01	16°♄05'51	
minimum elong	4579 Nov 27 14:23	5°♄54'28	0°51'49	min. Earth dist.	4585 Dec 01 00:50	11°♄12'23	3.94219 AU
morning rise	4579 Dec 10 09:37	8°♄40'12		opposition	4585 Dec 02 05:41	11°♄02'37	-1°-12'-38
retrograde	4580 Apr 08 16:33	25°♄23'54		direct	4586 Jan 29 01:58	6°♄07'45	
opposition	4580 Jun 08 14:07	20°♄31'26	1°02'14	evening set	4586 Jun 04 07:55	25°♄53'53	
min. Earth dist.	4580 Jun 09 22:07	20°♄21'13	4.44430 AU				
direct	4580 Aug 10 08:27	15°♄30'08		conjunction	4586 Jun 17 22:09	29°♄08'39	0°-35'-45
	4580 Nov 29 22:45	0°♄		minimum elong	4586 Jun 17 22:11	29°♄08'41	0°35'45
evening set	4580 Dec 14 02:00	3°♄02'41		max. Earth dist.	4586 Jun 20 03:44	29°♄40'42	5.97840 AU
max. Earth dist.	4580 Dec 24 16:10	5°♄22'14	6.39839 AU		4586 Jun 21 12:01	0°♄	
				morning rise	4586 Jul 01 14:47	2°♄24'31	
conjunction	4580 Dec 26 20:11	5°♄50'55	0°30'38	retrograde	4586 Nov 09 08:54	22°♄35'56	
minimum elong	4580 Dec 26 20:13	5°♄50'55	0°30'38	min. Earth dist.	4587 Jan 06 08:54	17°♄43'31	4.03556 AU
morning rise	4581 Jan 08 12:39	8°♄38'27		opposition	4587 Jan 07 21:19	17°♄31'06	0°-29'-11
retrograde	4581 May 10 11:33	25°♄54'21		direct	4587 Mar 07 03:57	12°♄33'37	
opposition	4581 Jul 10 09:03	21°♄02'11	0°23'50		4587 Jul 03 20:51	0°♄	
min. Earth dist.	4581 Jul 12 00:05	20°♄49'44	4.33768 AU	evening set	4587 Jul 11 14:27	1°♄46'17	
direct	4581 Sep 10 16:00	16°♄02'29					
	4581 Dec 26 16:28	0°♄		conjunction	4587 Jul 25 07:54	4°♄56'35	0°-2'-15
evening set	4582 Jan 14 03:57	4°♄05'10		minimum elong	4587 Jul 25 07:53	4°♄56'35	0°02'16
max. Earth dist.	4582 Jan 24 17:05	6°♄28'33	6.26543 AU	behind sun begin	4587 Jul 24 23:30	4°♄51'45	
				behind sun end	4587 Jul 25 16:17	5°♄01'24	
conjunction	4582 Jan 26 21:03	6°♄58'06	0°00'07	max. Earth dist.	4587 Jul 27 17:10	5°♄29'41	6.10641 AU
minimum elong	4582 Jan 26 21:05	6°♄58'07	0°00'08	morning rise	4587 Aug 08 02:17	8°♄07'02	
behind sun begin	4582 Jan 26 13:15	6°♄53'41		asc. node	4587 Aug 19 11:15	10°♄41'58	
behind sun end	4582 Jan 27 04:54	7°♄02'32			4587 Sep 08 04:17	15°♄	
desc. node	4582 Jan 28 03:49	7°♄15'35		retrograde	4587 Dec 13 12:13	27°♄10'03	
morning rise	4582 Feb 08 13:19	9°♄50'56		min. Earth dist.	4588 Feb 09 21:16	22°♄17'23	4.18400 AU
	4582 Mar 03 20:13	15°♄		opposition	4588 Feb 11 05:47	22°♄06'23	0°22'19
retrograde	4582 Jun 13 10:35	28°♄05'21		direct	4588 Apr 10 13:55	17°♄06'13	
opposition	4582 Aug 13 04:44	23°♄11'58	0°-24'-5		4588 Jul 20 09:16	0°♄	
min. Earth dist.	4582 Aug 14 13:50	23°♄01'20	4.18659 AU	evening set	4588 Aug 15 03:57	5°♄35'16	
direct	4582 Oct 13 07:31	18°♄14'37					
	4583 Jan 15 17:12	0°♄		conjunction	4588 Aug 28 19:01	8°♄37'35	0°30'37
evening set	4583 Feb 15 20:27	7°♄00'06		minimum elong	4588 Aug 28 18:59	8°♄37'34	0°30'36
max. Earth dist.	4583 Feb 27 01:56	9°♄38'16	6.10879 AU	max. Earth dist.	4588 Aug 30 10:06	8°♄59'24	6.26263 AU
				morning rise	4588 Sep 11 09:24	11°♄39'14	
conjunction	4583 Feb 28 14:57	10°♄00'04	0°-31'-52	retrograde	4589 Jan 13 09:47	29°♄32'57	
minimum elong	4583 Feb 28 14:56	10°♄00'03	0°31'52	opposition	4589 Mar 14 09:54	24°♄32'25	1°03'09
morning rise	4583 Mar 13 10:13	13°♄00'42		min. Earth dist.	4589 Mar 13 16:56	24°♄38'04	4.33407 AU
	4583 Jun 09 19:37	0°♄		direct	4589 May 14 03:48	19°♄30'32	
retrograde	4583 Jul 19 23:58	2°♄27'57			4589 Aug 13 03:54	0°♄	
	4583 Aug 29 11:23	30°♄		evening set	4589 Sep 17 15:18	7°♄21'28	
opposition	4583 Sep 18 07:41	27°♄31'55	-1°-7'-24				
min. Earth dist.	4583 Sep 19 00:08	27°♄26'32	4.03690 AU	conjunction	4589 Oct 01 00:35	10°♄15'51	0°52'29
direct	4583 Nov 17 00:11	22°♄36'52		minimum elong	4589 Oct 01 00:33	10°♄15'50	0°52'30
	4584 Jan 26 18:44	0°♄		max. Earth dist.	4589 Oct 01 12:59	10°♄22'36	6.39504 AU
evening set	4584 Mar 21 16:28	12°♄05'10		morning rise	4589 Oct 14 07:44	13°♄09'02	

	4590 Feb 01 06:34	0°♄		retrograde	4595 Jul 25 05:46	7°♃33'45	
retrograde	4590 Feb 12 16:53	0°♄12'35		opposition	4595 Sep 23 12:21	2°♃37'17	-1°-11'-59
	4590 Feb 24 03:49	30°♄		min. Earth dist.	4595 Sep 24 01:38	2°♃32'55	4.02144 AU
opposition	4590 Apr 14 02:38	25°♄15'41	1°23'40		4595 Oct 14 15:16	30°♄	
min. Earth dist.	4590 Apr 14 03:35	25°♄15'22	4.44046 AU	direct	4595 Nov 21 23:25	27°♄42'33	
direct	4590 Jun 14 23:49	20°♄13'15			4595 Dec 29 18:18	0°♃	
	4590 Sep 11 14:36	0°♄		evening set	4596 Mar 26 16:52	17°♃14'59	
evening set	4590 Oct 19 07:44	7°♄40'37					
				conjunction	4596 Apr 08 16:52	20°♃23'33	0°-55'-46
conjunction	4590 Nov 01 10:21	10°♄29'30	0°58'56	minimum elong	4596 Apr 08 16:51	20°♃23'33	0°55'48
minimum elong	4590 Nov 01 10:21	10°♄29'30	0°58'57	max. Earth dist.	4596 Apr 08 13:43	20°♃21'39	5.96902 AU
max. Earth dist.	4590 Oct 31 17:47	10°♄20'35	6.46754 AU	morning rise	4596 Apr 21 19:19	23°♃33'35	
morning rise	4590 Nov 14 10:22	13°♄17'06			4596 May 19 07:32	0°♄	
	4590 Nov 22 12:05	15°♄		retrograde	4596 Aug 31 13:55	14°♄07'21	
retrograde	4591 Mar 14 14:42	29°♄57'44		opposition	4596 Oct 30 11:05	9°♄07'08	-1°-27'-38
opposition	4591 May 14 07:12	25°♄03'48	1°21'21	min. Earth dist.	4596 Oct 29 23:45	9°♄10'55	3.93786 AU
min. Earth dist.	4591 May 15 03:13	24°♄57'22	4.47583 AU	direct	4596 Dec 27 17:25	4°♄13'18	
direct	4591 Jul 15 22:47	20°♄01'42			4597 Mar 24 05:36	15°♄	
	4591 Oct 13 19:35	0°♄		evening set	4597 May 02 17:26	24°♄06'39	
evening set	4591 Nov 18 22:21	7°♄23'49					
max. Earth dist.	4591 Nov 30 03:24	9°♄49'01	6.46271 AU	conjunction	4597 May 16 01:20	27°♄20'42	0°-54'-32
				minimum elong	4597 May 16 01:22	27°♄20'42	0°54'34
conjunction	4591 Dec 01 19:36	10°♄10'48	0°49'34	max. Earth dist.	4597 May 17 10:12	27°♄40'40	5.93069 AU
minimum elong	4591 Dec 01 19:38	10°♄10'48	0°49'35		4597 May 26 23:56	0°♄	
morning rise	4591 Dec 14 14:31	12°♄56'43		morning rise	4597 May 29 12:03	0°♄36'16	
retrograde	4592 Apr 13 01:40	29°♄43'54		retrograde	4597 Oct 08 20:51	21°♄21'24	
opposition	4592 Jun 12 22:55	24°♄51'34	0°57'44	min. Earth dist.	4597 Dec 06 04:21	16°♄27'53	3.95024 AU
min. Earth dist.	4592 Jun 14 08:19	24°♄40'54	4.43158 AU	opposition	4597 Dec 07 10:00	16°♄17'49	-1°-7'-53
direct	4592 Aug 14 16:30	19°♄50'27		direct	4598 Feb 03 07:00	11°♄22'40	
	4592 Nov 12 18:48	0°♄			4598 Jun 04 22:12	0°♄	
evening set	4592 Dec 18 09:17	7°♄26'44		evening set	4598 Jun 09 13:05	1°♄05'32	
max. Earth dist.	4592 Dec 29 00:04	9°♄47'09	6.38186 AU				
				conjunction	4598 Jun 23 04:03	4°♄20'02	0°-31'-33
conjunction	4592 Dec 31 03:21	10°♄15'31	0°26'45	minimum elong	4598 Jun 23 04:05	4°♄20'03	0°31'34
minimum elong	4592 Dec 31 03:22	10°♄15'32	0°26'45	max. Earth dist.	4598 Jun 25 11:23	4°♄52'59	5.99180 AU
morning rise	4593 Jan 12 19:29	13°♄03'37		morning rise	4598 Jul 06 21:23	7°♄35'33	
	4593 Apr 28 05:18	0°♄		retrograde	4598 Nov 14 05:31	27°♄39'03	
retrograde	4593 May 15 01:38	0°♄26'29		min. Earth dist.	4599 Jan 11 05:38	22°♄46'56	4.05282 AU
	4593 May 31 23:12	30°♄		opposition	4599 Jan 12 18:52	22°♄34'15	0°-21'-59
opposition	4593 Jul 14 23:51	25°♄34'16	0°17'22	direct	4599 Mar 12 03:19	17°♄36'23	
min. Earth dist.	4593 Jul 16 14:07	25°♄22'04	4.31839 AU		4599 Jun 16 09:43	0°♄	
direct	4593 Sep 15 03:13	20°♄34'56		asc. node	4599 Jun 29 14:04	2°♄52'17	
desc. node	4593 Dec 07 14:29	29°♄45'24		evening set	4599 Jul 16 15:34	6°♄43'45	
	4593 Dec 08 20:38	0°♄					
evening set	4594 Jan 18 15:42	8°♄42'58		conjunction	4599 Jul 30 08:56	9°♄53'08	0°02'45
max. Earth dist.	4594 Jan 29 05:41	11°♄07'34	6.24482 AU	minimum elong	4599 Jul 30 08:55	9°♄53'08	0°02'46
				behind sun begin	4599 Jul 30 00:33	9°♄48'20	
conjunction	4594 Jan 31 08:42	11°♄36'43	0°-4'-35	behind sun end	4599 Jul 30 17:17	9°♄57'55	
minimum elong	4594 Jan 31 08:41	11°♄36'42	0°04'36	max. Earth dist.	4599 Aug 01 15:25	10°♄24'30	6.12589 AU
behind sun begin	4594 Jan 31 00:53	11°♄32'16		morning rise	4599 Aug 13 03:10	13°♄02'35	
behind sun end	4594 Jan 31 16:30	11°♄41'09			4599 Aug 21 18:26	15°♄	
morning rise	4594 Feb 13 01:15	14°♄30'29			4599 Nov 13 00:58	0°♄	
	4594 Feb 15 05:17	15°♄		retrograde	4599 Dec 18 02:41	1°♄56'19	
	4594 May 05 08:56	0°♄			4600 Jan 21 22:01	30°♄	
retrograde	4594 Jun 18 10:38	2°♄54'12		opposition	4600 Feb 15 20:14	26°♄52'58	0°28'59
	4594 Aug 02 03:54	30°♄		min. Earth dist.	4600 Feb 14 14:14	27°♄03'07	4.20368 AU
opposition	4594 Aug 18 03:00	28°♄00'31	0°-30'-52	direct	4600 Apr 16 09:46	21°♄52'29	
min. Earth dist.	4594 Aug 19 10:40	27°♄50'19	4.16593 AU		4600 Jul 02 07:17	0°♄	
direct	4594 Oct 18 02:12	23°♄03'27		evening set	4600 Aug 20 22:57	10°♄16'26	
	4594 Dec 26 19:54	0°♄					
evening set	4595 Feb 20 14:08	11°♄54'41		conjunction	4600 Sep 03 13:31	13°♄17'44	0°34'29
max. Earth dist.	4595 Mar 04 00:18	14°♄36'13	6.08983 AU	minimum elong	4600 Sep 03 13:29	13°♄17'43	0°34'29
				max. Earth dist.	4600 Sep 05 02:36	13°♄38'21	6.28105 AU
conjunction	4595 Mar 05 09:12	14°♄55'40	0°-35'-51	morning rise	4600 Sep 17 02:57	16°♄18'13	
minimum elong	4595 Mar 05 09:11	14°♄55'39	0°35'51		4600 Nov 27 07:46	0°♄	
morning rise	4595 Mar 18 05:00	17°♄57'23					
	4595 May 12 22:54	0°♄					

	4600 Jan 21 22:01	30°♄♄		retrograde	4605 May 20 15:32	4°≈55'46	
opposition	4600 Feb 15 20:14	26°♄52'58	0°28'59	opposition	4605 Jul 20 13:42	0°≈03'22	0°10'59
min. Earth dist.	4600 Feb 14 14:14	27°♄03'07	4.20368 AU		4605 Jul 21 00:14	30°♄♄	
direct	4600 Apr 16 09:46	21°♄52'29		min. Earth dist.	4605 Jul 22 03:33	29°♄51'16	4.30498 AU
	4600 Jul 02 07:17	0°♄		direct	4605 Sep 20 14:48	25°♄04'14	
evening set	4600 Aug 20 22:57	10°♄16'26		desc. node	4605 Oct 20 04:02	26°♄23'05	
					4605 Nov 18 16:01	0°≈	
conjunction	4600 Sep 03 13:31	13°♄17'44	0°34'29	evening set	4606 Jan 24 01:02	13°≈15'27	
minimum elong	4600 Sep 03 13:29	13°♄17'43	0°34'29		4606 Jan 31 16:21	15°≈	
max. Earth dist.	4600 Sep 05 02:36	13°♄38'21	6.28105 AU	max. Earth dist.	4606 Feb 03 17:36	15°≈41'58	6.22988 AU
morning rise	4600 Sep 17 02:57	16°♄18'13					
	4600 Nov 27 07:46	0°♄		conjunction	4606 Feb 05 18:09	16°≈09'47	0°-9'-1
retrograde	4601 Jan 18 17:04	4°♄04'22		minimum elong	4606 Feb 05 18:09	16°≈09'47	0°09'02
	4601 Mar 12 18:16	30°♄♄		behind sun begin	4606 Feb 05 11:19	16°≈05'53	
opposition	4601 Mar 19 18:46	29°♄04'22	1°07'22	behind sun end	4606 Feb 06 00:59	16°≈13'41	
min. Earth dist.	4601 Mar 19 03:13	29°♄09'31	4.35001 AU	morning rise	4606 Feb 18 10:42	19°≈04'12	
direct	4601 May 19 15:29	24°♄02'23			4606 Apr 11 05:44	0°♄	
	4601 Jul 24 15:56	0°♄		retrograde	4606 Jun 24 06:10	7°♄35'13	
evening set	4601 Sep 23 04:34	11°♄49'49		opposition	4606 Aug 23 22:14	2°♄41'14	0°-37'-9
				min. Earth dist.	4606 Aug 25 04:22	2°♄31'31	4.15046 AU
conjunction	4601 Oct 06 12:49	14°♄43'19	0°54'22		4606 Sep 14 22:48	30°♄≈	
minimum elong	4601 Oct 06 12:48	14°♄43'19	0°54'22	direct	4606 Oct 23 17:07	27°≈44'30	
max. Earth dist.	4601 Oct 06 20:24	14°♄47'26	6.40747 AU		4606 Nov 30 22:57	0°♄	
morning rise	4601 Oct 19 19:03	17°♄35'38		evening set	4607 Feb 26 04:27	16°♄39'41	
	4601 Dec 23 16:41	0°♄					
retrograde	4602 Feb 17 23:54	4°♄34'50		conjunction	4607 Mar 10 23:43	19°♄41'26	0°-39'-23
	4602 Apr 16 15:03	30°♄♄		minimum elong	4607 Mar 10 23:42	19°♄41'25	0°39'24
opposition	4602 Apr 19 09:17	29°♄38'26	1°24'42	max. Earth dist.	4607 Mar 09 16:20	19°♄22'49	6.07503 AU
min. Earth dist.	4602 Apr 19 13:29	29°♄37'04	4.44891 AU	morning rise	4607 Mar 23 20:15	22°♄44'03	
direct	4602 Jun 20 10:25	24°♄36'03			4607 Apr 24 17:41	0°♄	
	4602 Aug 22 18:40	0°♄		retrograde	4607 Jul 31 05:48	12°♄28'04	
evening set	4602 Oct 24 16:30	12°♄01'45		opposition	4607 Sep 29 12:13	7°♄31'06	-1°-15'-50
				min. Earth dist.	4607 Sep 29 22:40	7°♄27'40	4.00863 AU
conjunction	4602 Nov 06 18:21	14°♄50'09	0°58'32	direct	4607 Nov 27 19:17	2°♄36'30	
minimum elong	4602 Nov 06 18:21	14°♄50'09	0°58'33	evening set	4608 Apr 01 12:48	22°♄12'26	
max. Earth dist.	4602 Nov 05 22:58	14°♄39'44	6.47163 AU				
	4602 Nov 07 12:39	15°♄		conjunction	4608 Apr 14 13:51	25°♄21'53	0°-56'-56
morning rise	4602 Nov 19 17:30	17°♄37'17		minimum elong	4608 Apr 14 13:50	25°♄21'52	0°56'56
	4603 Jan 24 07:59	0°♄		max. Earth dist.	4608 Apr 14 15:43	25°♄23'00	5.95954 AU
retrograde	4603 Mar 19 19:53	4°♄16'56		morning rise	4608 Apr 27 17:09	28°♄32'46	
	4603 May 14 19:27	30°♄♄			4608 May 03 18:37	0°♄	
opposition	4603 May 19 14:03	29°♄23'17	1°19'14		4608 Jul 16 04:32	15°♄	
min. Earth dist.	4603 May 20 11:03	29°♄16'32	4.47577 AU	retrograde	4608 Sep 06 18:52	19°♄11'05	
direct	4603 Jul 21 05:52	24°♄21'19			4608 Oct 30 08:19	15°♄♄	
	4603 Sep 24 10:32	0°♄		opposition	4608 Nov 05 13:06	14°♄10'25	-1°-27'-1
evening set	4603 Nov 24 05:08	11°♄43'33		min. Earth dist.	4608 Nov 05 00:24	14°♄14'41	3.93285 AU
max. Earth dist.	4603 Dec 05 09:12	14°♄08'25	6.45875 AU	direct	4609 Jan 02 17:33	9°♄16'32	
					4609 Mar 04 05:11	15°♄	
conjunction	4603 Dec 07 01:47	14°♄30'26	0°47'06	evening set	4609 May 08 18:00	29°♄11'03	
minimum elong	4603 Dec 07 01:48	14°♄30'26	0°47'06		4609 May 12 02:56	0°♄	
morning rise	4603 Dec 19 19:59	17°♄16'15					
	4604 Feb 25 03:34	0°♄		conjunction	4609 May 22 02:57	2°♄25'38	0°-52'-35
retrograde	4604 Apr 18 09:57	4°♄05'29		minimum elong	4609 May 22 02:59	2°♄25'39	0°52'36
	4604 Jun 12 04:51	30°♄♄		max. Earth dist.	4609 May 23 14:21	2°♄47'07	5.93055 AU
opposition	4604 Jun 18 08:15	29°♄13'17	0°52'58	morning rise	4609 Jun 04 14:56	5°♄41'45	
min. Earth dist.	4604 Jun 19 18:44	29°♄02'18	4.42394 AU	retrograde	4609 Oct 14 20:59	26°♄25'39	
direct	4604 Aug 20 01:44	24°♄12'24		min. Earth dist.	4609 Dec 12 02:01	21°♄32'39	3.95517 AU
	4604 Oct 24 15:47	0°♄		opposition	4609 Dec 13 09:52	21°♄21'50	-1°-2'-53
evening set	4604 Dec 23 16:19	11°♄50'24		direct	4610 Feb 09 05:18	16°♄26'24	
max. Earth dist.	4605 Jan 03 05:02	14°♄10'06	6.37110 AU		4610 May 20 01:50	0°♄	
				evening set	4610 Jun 15 15:01	6°♄07'40	
conjunction	4605 Jan 05 09:52	14°♄39'25	0°22'47				
minimum elong	4605 Jan 05 09:53	14°♄39'25	0°22'49	conjunction	4610 Jun 29 06:41	9°♄22'04	0°-27'-18
morning rise	4605 Jan 18 01:56	17°♄27'53		minimum elong	4610 Jun 29 06:42	9°♄22'05	0°27'19
	4605 Mar 22 21:32	0°≈		max. Earth dist.	4610 Jul 01 13:51	9°♄54'50	6.00135 AU

morning rise	4610 Jul 13 00:38	12°  37'22		conjunction	4615 Dec 11 07:05	18°  48'42	0°44'20
	4610 Oct 10 13:16	0°  0		minimum elong	4615 Dec 11 07:06	18°  48'43	0°44'21
retrograde	4610 Nov 20 01:00	2°  34'48		morning rise	4615 Dec 24 00:51	21°  34'37	
	4610 Dec 30 08:59	30°  0			4616 Feb 03 06:11	0°  0	
min. Earth dist.	4611 Jan 17 01:19	27°  42'28	4.06577 AU	retrograde	4616 Apr 22 18:40	8°  27'02	
opposition	4611 Jan 18 13:44	27°  30'03	0°-14'-56	opposition	4616 Jun 22 17:36	3°  34'50	0°47'50
direct	4611 Mar 18 01:37	22°  31'48		min. Earth dist.	4616 Jun 24 04:36	3°  23'41	4.41237 AU
asc. node	4611 May 12 05:22	27°  11'09			4616 Jul 24 03:18	30°  0	
	4611 May 28 19:11	0°  0		direct	4616 Aug 24 09:02	28°  34'07	
evening set	4611 Jul 22 14:55	11°  35'40			4616 Sep 24 16:45	0°  0	
				evening set	4616 Dec 27 23:15	16°  15'20	
conjunction	4611 Aug 05 08:28	14°  44'24	0°07'29	max. Earth dist.	4617 Jan 07 12:29	18°  35'48	6.35519 AU
minimum elong	4611 Aug 05 08:27	14°  44'23	0°07'28				
behind sun begin	4611 Aug 05 00:51	14°  40'03		conjunction	4617 Jan 09 16:39	19°  04'52	0°18'37
behind sun end	4611 Aug 05 16:02	14°  48'43		minimum elong	4617 Jan 09 16:40	19°  04'52	0°18'38
	4611 Aug 06 11:41	15°  0		morning rise	4617 Jan 22 08:28	21°  53'54	
max. Earth dist.	4611 Aug 07 15:07	15°  15'44	6.14137 AU		4617 Mar 01 18:03	0°  0	
morning rise	4611 Aug 19 02:18	17°  53'00		retrograde	4617 May 25 07:32	9°  28'54	
	4611 Oct 16 14:09	0°  0		opposition	4617 Jul 25 04:56	4°  36'24	0°04'20
retrograde	4611 Dec 23 15:41	6°  38'48		min. Earth dist.	4617 Jul 26 19:07	4°  24'13	4.28553 AU
min. Earth dist.	4612 Feb 20 04:01	1°  45'46	4.22020 AU	desc. node	4617 Aug 30 02:49	0°  0	
opposition	4612 Feb 21 09:20	1°  35'53	0°35'15		4617 Sep 09 12:41	30°  0	
	4612 Mar 04 11:15	30°  0		direct	4617 Sep 25 02:46	29°  37'36	
direct	4612 Apr 21 01:40	26°  35'10			4617 Oct 10 16:35	0°  0	
	4612 Jun 07 20:22	0°  0			4618 Jan 15 15:38	15°  0	
evening set	4612 Aug 25 17:17	14°  55'04		evening set	4618 Jan 28 12:42	17°  54'18	
				max. Earth dist.	4618 Feb 08 05:06	20°  21'30	6.20834 AU
conjunction	4612 Sep 08 07:02	17°  55'22	0°38'03				
minimum elong	4612 Sep 08 07:00	17°  55'21	0°38'04	conjunction	4618 Feb 10 05:49	20°  49'33	0°-13'-34
max. Earth dist.	4612 Sep 09 15:49	18°  13'33	6.29723 AU	minimum elong	4618 Feb 10 05:48	20°  49'33	0°13'35
morning rise	4612 Sep 21 19:47	20°  54'50		behind sun begin	4618 Feb 10 01:15	20°  46'57	
	4612 Nov 04 16:50	0°  0		behind sun end	4618 Feb 10 10:20	20°  52'09	
retrograde	4613 Jan 23 01:39	8°  34'11		morning rise	4618 Feb 22 22:52	23°  45'01	
opposition	4613 Mar 24 03:32	3°  34'36	1°11'05		4618 Mar 23 00:48	0°  0	
min. Earth dist.	4613 Mar 23 14:39	3°  38'52	4.36464 AU	retrograde	4618 Jun 29 05:41	12°  37'04	
	4613 Apr 23 09:10	30°  0		opposition	4618 Aug 28 20:55	7°  31'41	0°-43'-31
direct	4613 May 24 04:47	28°  32'29		min. Earth dist.	4618 Aug 30 00:40	7°  22'42	4.12839 AU
	4613 Jun 24 09:32	0°  0		direct	4618 Oct 28 10:40	2°  35'13	
evening set	4613 Sep 27 16:58	16°  16'30		evening set	4619 Mar 02 23:04	21°  36'57	
conjunction	4613 Oct 11 00:28	19°  09'10	0°55'53	conjunction	4619 Mar 15 19:06	24°  39'53	0°-42'-51
minimum elong	4613 Oct 11 00:27	19°  09'10	0°55'52	minimum elong	4619 Mar 15 19:05	24°  39'52	0°42'53
max. Earth dist.	4613 Oct 11 06:09	19°  12'15	6.41937 AU	max. Earth dist.	4619 Mar 14 16:32	24°  34'03	6.05449 AU
morning rise	4613 Oct 24 05:31	22°  00'35		morning rise	4619 Mar 28 16:17	27°  43'44	
	4613 Dec 02 07:53	0°  0			4619 Apr 07 08:09	0°  0	
retrograde	4614 Feb 22 03:45	8°  55'28		retrograde	4619 Aug 05 14:22	17°  37'37	
opposition	4614 Apr 23 15:20	3°  59'28	1°25'13	opposition	4619 Oct 04 18:00	12°  40'12	-1°-19'-23
min. Earth dist.	4614 Apr 23 20:47	3°  57'42	4.45724 AU	min. Earth dist.	4619 Oct 05 02:16	12°  37'28	3.99170 AU
	4614 May 29 08:30	30°  0		direct	4619 Dec 02 21:11	7°  45'49	
direct	4614 Jun 24 18:02	28°  57'05		evening set	4620 Apr 06 15:12	27°  45'38	
	4614 Jul 21 12:07	0°  0			4620 Apr 17 04:08	0°  0	
	4614 Oct 22 16:05	15°  0		conjunction	4620 Apr 19 17:12	0°  37'06	0°-57'-44
evening set	4614 Oct 29 00:37	16°  20'58		minimum elong	4620 Apr 19 17:11	0°  37'06	0°57'45
max. Earth dist.	4614 Nov 10 02:23	18°  56'26	6.47547 AU	max. Earth dist.	4620 Apr 19 22:43	0°  40'28	5.94774 AU
				morning rise	4620 May 02 21:52	3°  49'07	
conjunction	4614 Nov 11 01:28	19°  08'52	0°57'47		4620 Jun 21 10:04	15°  0	
minimum elong	4614 Nov 11 01:29	19°  08'52	0°57'48	retrograde	4620 Sep 12 03:41	24°  32'23	
morning rise	4614 Nov 23 23:51	21°  55'32		opposition	4620 Nov 10 21:28	19°  31'13	-1°-25'-41
	4615 Jan 02 19:40	0°  0		min. Earth dist.	4620 Nov 10 04:43	19°  36'51	3.92791 AU
retrograde	4615 Mar 24 02:16	8°  34'18			4620 Dec 24 02:59	15°  0	
opposition	4615 May 23 20:19	3°  40'56	1°16'39	direct	4621 Jan 07 22:02	14°  37'15	
min. Earth dist.	4615 May 24 20:18	3°  33'15	4.47459 AU		4621 Jan 22 18:24	15°  0	
	4615 Jun 25 05:27	30°  0		evening set	4621 Apr 24 22:10	0°  0	
direct	4615 Jul 25 14:20	28°  39'02			4621 May 14 01:34	4°  32'42	
	4615 Aug 25 03:22	0°  0					
evening set	4615 Nov 28 10:58	16°  37'01'47		conjunction	4621 May 27 11:40	7°  47'41	0°-50'-5
max. Earth dist.	4615 Dec 09 11:35	18°  37'25'04	6.45226 AU				

minimum elong	4621 May 27 11:42	7°II47'42	0°50'06			4626 Dec 16 15:45	0°𐌸	
max. Earth dist.	4621 May 29 02:56	8°II11'30	5.93304 AU	retrograde		4627 Mar 28 04:26	12°𐌸44'53	
morning rise	4621 Jun 10 00:45	11°II04'12		opposition		4627 May 28 00:18	7°𐌸51'44	1°13'44
	4621 Sep 17 02:21	0°𐌹		min. Earth dist.		4627 May 29 01:47	7°𐌸43'34	4.47109 AU
retrograde	4621 Oct 20 02:50	1°𐌹45'02		direct		4627 Jul 29 18:01	2°𐌸49'57	
	4621 Nov 21 23:07	30°RII		evening set		4627 Dec 02 14:35	20°𐌸14'05	
min. Earth dist.	4621 Dec 17 06:08	26°II52'09	3.96487 AU	max. Earth dist.		4627 Dec 13 12:02	22°𐌸36'02	6.44226 AU
opposition	4621 Dec 18 15:11	26°II40'53	0°-57'-4					
direct	4622 Feb 14 12:38	21°II45'06		conjunction		4627 Dec 15 10:07	23°𐌸01'09	0°41'24
	4622 Apr 30 03:47	0°𐌹		minimum elong		4627 Dec 15 10:09	23°𐌸01'10	0°41'25
evening set	4622 Jun 20 22:12	11°𐌹22'32		morning rise		4627 Dec 28 03:31	25°𐌸47'19	
						4628 Jan 16 22:36	0°𐌹	
conjunction	4622 Jul 04 14:38	14°𐌹36'28	0°-22'-37	retrograde		4628 Apr 27 03:53	12°𐌹44'19	
minimum elong	4622 Jul 04 14:39	14°𐌹36'29	0°22'39	opposition		4628 Jun 27 01:47	7°𐌹52'13	0°42'32
max. Earth dist.	4622 Jul 07 01:01	15°𐌹11'00	6.01762 AU	min. Earth dist.		4628 Jun 28 15:10	7°𐌹40'18	4.39622 AU
morning rise	4622 Jul 18 08:52	17°𐌹51'08		direct		4628 Aug 28 16:20	2°𐌹51'41	
	4622 Sep 12 18:49	0°𐌺		evening set		4629 Jan 01 05:31	20°𐌹37'45	
retrograde	4622 Nov 24 23:02	7°𐌺39'07		max. Earth dist.		4629 Jan 11 16:33	22°𐌹57'43	6.33405 AU
min. Earth dist.	4623 Jan 21 23:05	2°𐌺46'56	4.08682 AU					
opposition	4623 Jan 23 11:46	2°𐌺34'28	0°-7'-31	conjunction		4629 Jan 13 22:47	23°𐌹28'04	0°14'24
	4623 Feb 12 10:27	30°R𐌹		minimum elong		4629 Jan 13 22:48	23°𐌹28'04	0°14'24
asc. node	4623 Mar 21 19:45	27°𐌹36'00		behind sun begin		4629 Jan 13 19:01	23°𐌹25'58	
direct	4623 Mar 23 02:40	27°𐌹35'50		behind sun end		4629 Jan 14 02:35	23°𐌹30'11	
	4623 Apr 30 23:25	0°𐌺		morning rise		4629 Jan 26 14:45	26°𐌹17'59	
	4623 Jul 20 20:04	15°𐌺				4629 Feb 12 11:24	0°𐌻	
evening set	4623 Jul 27 16:33	16°𐌺32'54		retrograde		4629 May 29 23:57	14°𐌻02'09	
				desc. node		4629 Jul 10 15:12	11°𐌻30'30	
conjunction	4623 Aug 10 09:39	19°𐌺40'23	0°12'16	opposition		4629 Jul 29 20:38	9°𐌻09'28	0°-2'-19
minimum elong	4623 Aug 10 09:37	19°𐌺40'22	0°12'15	min. Earth dist.		4629 Jul 31 09:37	8°𐌻57'38	4.26066 AU
behind sun begin	4623 Aug 10 04:11	19°𐌺37'17		direct		4629 Sep 29 13:19	4°𐌻10'57	
behind sun end	4623 Aug 10 15:04	19°𐌺43'27				4629 Dec 29 12:18	15°𐌻	
max. Earth dist.	4623 Aug 12 13:36	20°𐌺10'01	6.16525 AU	evening set		4630 Feb 02 01:14	22°𐌻35'12	
morning rise	4623 Aug 24 03:10	22°𐌺47'41		max. Earth dist.		4630 Feb 12 21:06	25°𐌻05'13	6.18187 AU
	4623 Sep 26 05:49	0°𐌽						
retrograde	4623 Dec 28 03:21	11°𐌽22'30		conjunction		4630 Feb 14 18:45	25°𐌻31'40	0°-18'-3
opposition	4624 Feb 25 23:02	6°𐌽19'52	0°41'21	minimum elong		4630 Feb 14 18:44	25°𐌻31'40	0°18'03
min. Earth dist.	4624 Feb 24 19:26	6°𐌽29'09	4.24464 AU	morning rise		4630 Feb 27 12:09	28°𐌻28'26	
direct	4624 Apr 25 20:21	1°𐌽18'50				4630 Mar 06 03:49	0°𐌾	
evening set	4624 Aug 30 10:41	19°𐌽31'49		retrograde		4630 Jul 04 09:37	17°𐌾21'31	
				opposition		4630 Sep 02 22:09	12°𐌾26'51	0°-49'-40
conjunction	4624 Sep 12 23:44	22°𐌽30'48	0°41'23	min. Earth dist.		4630 Sep 04 00:28	12°𐌾18'20	4.10238 AU
minimum elong	4624 Sep 12 23:43	22°𐌽30'47	0°41'23	direct		4630 Nov 02 06:57	7°𐌾30'48	
max. Earth dist.	4624 Sep 14 06:13	22°𐌽47'37	6.32037 AU	evening set		4631 Mar 07 20:39	26°𐌾40'32	
morning rise	4624 Sep 26 11:15	25°𐌽28'49						
	4624 Oct 17 13:16	0°𐌿		conjunction		4631 Mar 20 17:20	29°𐌾44'48	0°-46'-2
retrograde	4625 Jan 27 06:39	12°𐌿59'14		minimum elong		4631 Mar 20 17:18	29°𐌾44'47	0°46'04
opposition	4625 Mar 28 10:30	8°𐌿00'08	1°14'20	max. Earth dist.		4631 Mar 19 17:50	29°𐌾30'44	6.03134 AU
min. Earth dist.	4625 Mar 27 23:50	8°𐌿03'40	4.38467 AU			4631 Mar 21 18:44	0°𐍀	
direct	4625 May 28 15:54	2°𐌿57'55		morning rise		4631 Apr 02 15:36	2°𐍀50'09	
evening set	4625 Oct 02 02:57	20°𐌿36'51		retrograde		4631 Aug 11 00:21	22°𐍀54'44	
				opposition		4631 Oct 10 02:41	17°𐍀56'50	-1°-22'-20
conjunction	4625 Oct 15 09:18	23°𐌿28'30	0°57'03	min. Earth dist.		4631 Oct 10 06:09	17°𐍀55'41	3.97406 AU
minimum elong	4625 Oct 15 09:17	23°𐌿28'29	0°57'03	direct		4631 Dec 07 23:54	13°𐍀02'42	
max. Earth dist.	4625 Oct 15 09:13	23°𐌿28'27	6.43462 AU			4632 Mar 31 03:47	0°𐍁	
morning rise	4625 Oct 28 13:28	26°𐌿18'55		evening set		4632 Apr 11 21:15	2°𐍁48'41	
	4625 Nov 15 00:17	0°𐍂						
retrograde	4626 Feb 26 06:58	13°𐍂08'53		conjunction		4632 Apr 25 00:24	6°𐍁00'10	0°-58'-2
opposition	4626 Apr 27 19:07	8°𐍂13'16	1°25'16	minimum elong		4632 Apr 25 00:24	6°𐍁00'10	0°58'03
min. Earth dist.	4626 Apr 28 04:16	8°𐍂10'17	4.46685 AU	max. Earth dist.		4632 Apr 25 12:01	6°𐍁07'15	5.93741 AU
direct	4626 Jun 29 01:42	3°𐍂10'50		morning rise		4632 May 08 06:14	9°𐍁13'14	
	4626 Oct 06 11:08	15°𐍂				4632 Jun 01 17:29	15°𐍁	
evening set	4626 Nov 02 05:19	20°𐍂32'36				4632 Sep 15 19:35	0°𐍃	
max. Earth dist.	4626 Nov 14 03:43	23°𐍂06'12	6.47860 AU	retrograde		4632 Sep 17 15:52	0°𐍃00'21	
						4632 Sep 19 12:08	30°R𐍁	
conjunction	4626 Nov 15 05:34	23°𐍂20'06	0°56'46	opposition		4632 Nov 16 08:20	24°𐍁58'37	-1°-23'-31
minimum elong	4626 Nov 15 05:35	23°𐍂20'07	0°56'45	min. Earth dist.		4632 Nov 15 12:41	25°𐍁05'14	3.92616 AU
morning rise	4626 Nov 28 03:02	26°𐍂06'21		direct		4633 Jan 13 07:31	20°𐍁04'32	

	4633 Apr 05 16:29	0°♈		minimum elong	4638 Nov 19 11:10	27°♌36'16	0°55'26
evening set	4633 May 19 11:27	9°♈59'22			4638 Nov 30 14:24	0°♌	
				morning rise	4638 Dec 02 08:04	0°♌22'18	
conjunction	4633 Jun 01 22:45	13°♈14'36	0°-47'-7	retrograde	4639 Apr 01 11:16	17°♌01'48	
minimum elong	4633 Jun 01 22:47	13°♈14'37	0°47'08	opposition	4639 Jun 01 06:45	12°♌08'53	1°10'25
max. Earth dist.	4633 Jun 03 19:47	13°♈41'50	5.93993 AU	min. Earth dist.	4639 Jun 02 11:18	11°♌59'44	4.46417 AU
morning rise	4633 Jun 15 12:47	16°♈31'13		direct	4639 Aug 03 01:47	7°♌07'09	
	4633 Aug 16 10:41	0°♉		evening set	4639 Dec 06 20:32	24°♌33'37	
retrograde	4633 Oct 25 09:48	7°♉06'35		max. Earth dist.	4639 Dec 17 15:55	26°♌54'51	6.42955 AU
min. Earth dist.	4633 Dec 22 10:21	2°♉14'02	3.97946 AU				
opposition	4633 Dec 23 21:09	2°♉02'12	0°-50'-43	conjunction	4639 Dec 19 15:48	27°♌21'02	0°38'10
	4634 Jan 08 07:47	30°♈♈		minimum elong	4639 Dec 19 15:50	27°♌21'03	0°38'11
direct	4634 Feb 19 19:50	27°♈06'03			4639 Dec 31 18:53	0°♉	
	4634 Apr 03 01:49	0°♉		morning rise	4640 Jan 01 08:47	0°♉07'34	
evening set	4634 Jun 26 05:55	16°♉37'52		retrograde	4640 May 01 14:24	17°♉09'58	
				opposition	4640 Jul 01 13:12	12°♉17'51	0°36'49
conjunction	4634 Jul 09 22:34	19°♉51'00	0°-17'-45	min. Earth dist.	4640 Jul 03 02:27	12°♉05'59	4.37853 AU
minimum elong	4634 Jul 09 22:35	19°♉51'01	0°17'46	direct	4640 Sep 02 00:29	7°♉17'33	
max. Earth dist.	4634 Jul 12 08:33	20°♉25'06	6.03800 AU	evening set	4641 Jan 05 14:46	25°♉08'45	
morning rise	4634 Jul 23 17:10	23°♉04'47		max. Earth dist.	4641 Jan 16 02:27	27°♉29'46	6.31270 AU
	4634 Aug 23 09:50	0°♊					
retrograde	4634 Nov 29 18:05	12°♊41'56		conjunction	4641 Jan 18 07:55	27°♉59'51	0°09'57
min. Earth dist.	4635 Jan 26 20:23	7°♊49'46	4.11057 AU	minimum elong	4641 Jan 18 07:55	27°♉59'51	0°09'57
opposition	4635 Jan 28 08:46	7°♊37'23	0°00'-3	behind sun begin	4641 Jan 18 01:26	27°♉56'13	
asc. node	4635 Jan 28 20:35	7°♊33'22		behind sun end	4641 Jan 18 14:23	28°♉03'28	
direct	4635 Mar 28 03:18	2°♊38'21			4641 Jan 27 05:33	0°♊	
	4635 Jul 03 05:22	15°♊		morning rise	4641 Jan 30 23:54	0°♊50'38	
evening set	4635 Aug 01 17:19	21°♊28'10			4641 Apr 14 08:45	15°♊	
				desc. node	4641 May 19 20:20	18°♊22'59	
conjunction	4635 Aug 15 10:08	24°♊34'23	0°16'59	retrograde	4641 Jun 03 21:03	18°♊44'03	
minimum elong	4635 Aug 15 10:07	24°♊34'22	0°16'59		4641 Jul 25 14:49	15°♊	
max. Earth dist.	4635 Aug 17 12:16	25°♊02'49	6.19033 AU	opposition	4641 Aug 03 15:56	13°♊51'12	0°-9'-14
morning rise	4635 Aug 29 02:50	27°♊40'14		min. Earth dist.	4641 Aug 05 04:59	13°♊39'19	4.23703 AU
	4635 Sep 08 13:43	0°♋		direct	4641 Oct 04 05:38	8°♊53'01	
retrograde	4636 Jan 01 15:13	16°♋04'09			4641 Dec 08 23:22	15°♊	
min. Earth dist.	4636 Feb 29 10:34	11°♋10'25	4.26870 AU	evening set	4642 Feb 06 16:56	27°♊24'07	
opposition	4636 Mar 01 11:38	11°♋02'00	0°47'11		4642 Feb 17 21:27	0°♋	
direct	4636 Apr 30 14:11	6°♋00'46		max. Earth dist.	4642 Feb 17 14:45	29°♊56'06	6.15807 AU
evening set	4636 Sep 04 03:26	24°♋07'28					
				conjunction	4642 Feb 19 10:43	0°♋21'42	0°-22'-34
conjunction	4636 Sep 17 15:30	27°♋05'11	0°44'30	minimum elong	4642 Feb 19 10:41	0°♋21'42	0°22'34
minimum elong	4636 Sep 17 15:28	27°♋05'10	0°44'30	morning rise	4642 Mar 04 04:42	3°♋19'42	
max. Earth dist.	4636 Sep 18 17:01	27°♋19'12	6.34143 AU	retrograde	4642 Jul 09 13:27	22°♋23'36	
	4636 Sep 30 22:34	0°♌		opposition	4642 Sep 08 01:37	17°♋28'33	0°-55'-39
morning rise	4636 Oct 01 02:06	0°♌01'56		min. Earth dist.	4642 Sep 09 00:01	17°♋21'16	4.08076 AU
retrograde	4637 Jan 31 11:47	17°♌24'37		direct	4642 Nov 07 04:23	12°♋32'51	
opposition	4637 Apr 01 17:30	12°♌26'01	1°17'14		4643 Mar 05 04:26	0°♍	
min. Earth dist.	4637 Apr 01 09:43	12°♌28'35	4.40153 AU	evening set	4643 Mar 12 20:10	1°♍48'48	
direct	4637 Jun 02 03:03	7°♌23'41					
evening set	4637 Oct 06 12:56	24°♌58'48		conjunction	4643 Mar 25 17:35	4°♍54'09	0°-48'-58
				minimum elong	4643 Mar 25 17:33	4°♍54'08	0°48'58
conjunction	4637 Oct 19 18:29	27°♌49'38	0°57'57	max. Earth dist.	4643 Mar 24 23:45	4°♍43'26	6.01405 AU
minimum elong	4637 Oct 19 18:28	27°♌49'38	0°57'58	morning rise	4643 Apr 07 16:41	8°♍00'39	
max. Earth dist.	4637 Oct 19 15:21	27°♌47'57	6.44613 AU	retrograde	4643 Aug 16 11:37	28°♍13'22	
	4637 Oct 29 20:23	0°♍		opposition	4643 Oct 15 11:56	23°♍14'53	-1°-24'-39
morning rise	4637 Nov 01 21:27	0°♍39'11		min. Earth dist.	4643 Oct 15 12:15	23°♍14'47	3.96310 AU
	4638 Jan 21 04:59	15°♍		direct	4643 Dec 13 06:04	18°♍20'52	
retrograde	4638 Mar 02 10:00	17°♍25'39			4644 Mar 13 01:28	0°♎	
	4638 Apr 11 18:31	15°♍		evening set	4644 Apr 17 02:51	8°♎09'10	
opposition	4638 May 01 23:54	12°♍30'28	1°24'56				
min. Earth dist.	4638 May 02 11:25	12°♍26'45	4.47250 AU	conjunction	4644 Apr 30 07:08	11°♎21'20	0°-57'-53
direct	4638 Jul 03 09:00	7°♍28'07		minimum elong	4644 Apr 30 07:09	11°♎21'20	0°57'55
	4638 Sep 17 21:56	15°♍		max. Earth dist.	4644 May 01 01:00	11°♎32'13	5.93391 AU
evening set	4638 Nov 06 11:50	24°♍49'04		morning rise	4644 May 13 14:06	14°♎35'04	
max. Earth dist.	4638 Nov 18 04:18	27°♍19'39	6.47788 AU		4644 May 15 07:24	15°♎	
					4644 Jul 25 00:04	0°♏	
conjunction	4638 Nov 19 11:09	27°♍36'16	0°55'26	retrograde	4644 Sep 23 01:14	5°♏22'40	

opposition	4644 Nov 21 16:48	0° Π 20'28	-1°-20'-42	direct	4650 Jul 07 15:01	11° \mathcal{M} 42'39	
min. Earth dist.	4644 Nov 20 18:01	0° Π 28'08	3.93083 AU		4650 Aug 25 06:21	15° \mathcal{M}	
	4644 Nov 24 05:33	30° \mathcal{R} 8		evening set	4650 Nov 10 17:21	29° \mathcal{M} 04'09	
direct	4645 Jan 18 14:29	25° \mathcal{U} 26'13			4650 Nov 15 01:34	0° \mathcal{A}	
	4645 Mar 13 02:07	0° Π		max. Earth dist.	4650 Nov 22 07:45	1° \mathcal{A} 33'49	6.47330 AU
evening set	4645 May 24 18:54	15° Π 18'08					
				conjunction	4650 Nov 23 16:12	1° \mathcal{A} 51'19	0°53'50
conjunction	4645 Jun 07 06:57	18° Π 33'11	0°-43'-50	minimum elong	4650 Nov 23 16:13	1° \mathcal{A} 51'20	0°53'50
minimum elong	4645 Jun 07 06:59	18° Π 33'12	0°43'53	morning rise	4650 Dec 06 12:19	4° \mathcal{A} 37'18	
max. Earth dist.	4645 Jun 09 05:53	19° Π 01'27	5.95195 AU	retrograde	4651 Apr 05 17:02	21° \mathcal{A} 19'08	
morning rise	4645 Jun 20 21:59	21° Π 49'36		opposition	4651 Jun 05 13:43	16° \mathcal{A} 26'28	1°06'44
	4645 Jul 26 12:54	0° \mathcal{S}		min. Earth dist.	4651 Jun 06 19:18	16° \mathcal{A} 17'00	4.45434 AU
retrograde	4645 Oct 30 09:47	12° \mathcal{S} 17'30		direct	4651 Aug 07 07:58	11° \mathcal{A} 25'01	
min. Earth dist.	4645 Dec 27 10:35	7° \mathcal{S} 25'12	3.99735 AU	evening set	4651 Dec 11 03:00	28° \mathcal{A} 54'33	
opposition	4645 Dec 28 22:43	7° \mathcal{S} 12'53	0°-44'-11		4651 Dec 16 03:01	0° \mathcal{S}	
direct	4646 Feb 24 23:30	2° \mathcal{S} 16'18		max. Earth dist.	4651 Dec 21 19:44	1° \mathcal{S} 14'56	6.41520 AU
evening set	4646 Jul 01 09:24	21° \mathcal{S} 41'45					
				conjunction	4651 Dec 23 21:42	1° \mathcal{S} 42'21	0°34'44
conjunction	4646 Jul 15 02:28	24° \mathcal{S} 54'00	0°-12'-56	minimum elong	4651 Dec 23 21:44	1° \mathcal{S} 42'22	0°34'44
minimum elong	4646 Jul 15 02:29	24° \mathcal{S} 54'00	0°12'57	morning rise	4652 Jan 05 14:32	4° \mathcal{S} 29'22	
behind sun begin	4646 Jul 14 21:30	24° \mathcal{S} 51'07		retrograde	4652 May 06 04:18	21° \mathcal{S} 37'50	
behind sun end	4646 Jul 15 07:27	24° \mathcal{S} 56'54		opposition	4652 Jul 06 01:51	16° \mathcal{S} 45'44	0°30'52
max. Earth dist.	4646 Jul 17 12:48	25° \mathcal{S} 28'08	6.06008 AU	min. Earth dist.	4652 Jul 07 16:12	16° \mathcal{S} 33'31	4.36046 AU
morning rise	4646 Jul 28 20:57	28° \mathcal{S} 06'43		direct	4652 Sep 06 11:59	11° \mathcal{S} 45'43	
	4646 Aug 06 01:44	0° \mathcal{Q}		evening set	4653 Jan 10 00:40	29° \mathcal{S} 41'58	
	4646 Oct 25 01:56	15° \mathcal{Q}			4653 Jan 11 08:50	0° \approx	
retrograde	4646 Dec 04 10:52	17° \mathcal{Q} 32'55		max. Earth dist.	4653 Jan 20 13:16	2° \approx 04'10	6.29240 AU
asc. node	4646 Dec 09 08:21	17° \mathcal{Q} 30'29					
	4647 Jan 13 14:20	15° \mathcal{R} 8		conjunction	4653 Jan 22 17:50	2° \approx 33'52	0°05'27
min. Earth dist.	4647 Jan 31 15:11	12° \mathcal{Q} 40'18	4.13427 AU	minimum elong	4653 Jan 22 17:51	2° \approx 33'53	0°05'27
opposition	4647 Feb 02 01:36	12° \mathcal{Q} 28'37	0°07'05	behind sun begin	4653 Jan 22 10:10	2° \approx 29'33	
direct	4647 Apr 02 01:05	7° \mathcal{Q} 29'15		behind sun end	4653 Jan 23 01:32	2° \approx 38'12	
	4647 Jun 13 19:02	15° \mathcal{Q}		morning rise	4653 Feb 04 09:53	5° \approx 25'31	
evening set	4647 Aug 06 13:44	26° \mathcal{Q} 12'08			4653 Mar 21 18:34	15° \approx	
				desc. node	4653 Mar 29 08:45	16° \approx 23'38	
conjunction	4647 Aug 20 06:03	29° \mathcal{Q} 17'07	0°21'25	retrograde	4653 Jun 08 16:15	23° \approx 27'46	
minimum elong	4647 Aug 20 06:02	29° \mathcal{Q} 17'06	0°21'25	opposition	4653 Aug 08 11:46	18° \approx 34'41	0°-16'-6
max. Earth dist.	4647 Aug 22 05:08	29° \mathcal{Q} 43'40	6.21356 AU	min. Earth dist.	4653 Aug 09 22:26	18° \approx 23'34	4.21590 AU
	4647 Aug 23 10:05	0° \mathcal{P}			4653 Sep 08 16:49	15° \mathcal{R} \approx	
morning rise	4647 Sep 02 22:09	2° \mathcal{P} 21'40		direct	4653 Oct 08 20:20	13° \approx 36'54	
retrograde	4648 Jan 05 22:04	20° \mathcal{P} 35'54			4653 Nov 07 20:57	15° \approx	
opposition	4648 Mar 05 20:48	15° \mathcal{P} 34'14	0°52'32		4654 Feb 01 15:56	0° \mathcal{H}	
min. Earth dist.	4648 Mar 04 21:33	15° \mathcal{P} 42'01	4.28964 AU	evening set	4654 Feb 11 08:39	2° \mathcal{H} 13'50	
direct	4648 May 05 03:03	10° \mathcal{P} 32'49		max. Earth dist.	4654 Feb 22 10:03	4° \mathcal{H} 48'36	6.13777 AU
evening set	4648 Sep 08 16:44	28° \mathcal{P} 34'28					
	4648 Sep 15 05:34	0° \mathcal{L}		conjunction	4654 Feb 24 02:38	5° \mathcal{H} 12'21	0°-26'-54
				minimum elong	4654 Feb 24 02:37	5° \mathcal{H} 12'20	0°26'55
conjunction	4648 Sep 22 03:59	1° \mathcal{L} 31'08	0°47'16	morning rise	4654 Mar 08 21:07	8° \mathcal{H} 11'25	
minimum elong	4648 Sep 22 03:57	1° \mathcal{L} 31'07	0°47'15	retrograde	4654 Jul 14 18:58	27° \mathcal{H} 24'58	
max. Earth dist.	4648 Sep 23 01:11	1° \mathcal{L} 42'45	6.35863 AU	opposition	4654 Sep 13 04:46	22° \mathcal{H} 29'29	-1°-1'-11
morning rise	4648 Oct 05 13:31	4° \mathcal{L} 26'45		min. Earth dist.	4654 Sep 14 01:02	22° \mathcal{H} 22'52	4.06280 AU
retrograde	4649 Feb 04 16:18	21° \mathcal{L} 43'22		direct	4654 Nov 12 03:55	17° \mathcal{H} 34'03	
opposition	4649 Apr 05 22:22	16° \mathcal{L} 45'22	1°19'38		4655 Feb 15 20:39	0° \mathcal{Y}	
min. Earth dist.	4649 Apr 05 17:57	16° \mathcal{L} 46'49	4.41397 AU	evening set	4655 Mar 17 18:32	6° \mathcal{Y} 54'49	
direct	4649 Jun 06 12:27	11° \mathcal{L} 43'03					
evening set	4649 Oct 10 21:05	29° \mathcal{L} 15'50		conjunction	4655 Mar 30 16:44	10° \mathcal{Y} 01'08	0°-51'-28
	4649 Oct 14 07:30	0° \mathcal{M}		minimum elong	4655 Mar 30 16:43	10° \mathcal{Y} 01'07	0°51'29
				max. Earth dist.	4655 Mar 30 03:42	9° \mathcal{Y} 53'17	6.00001 AU
conjunction	4649 Oct 24 01:41	2° \mathcal{M} 06'04	0°58'33	morning rise	4655 Apr 12 16:43	13° \mathcal{Y} 08'39	
minimum elong	4649 Oct 24 01:41	2° \mathcal{M} 06'04	0°58'32		4655 Jul 05 02:26	0° \mathcal{U}	
max. Earth dist.	4649 Oct 23 17:26	2° \mathcal{M} 01'37	6.45290 AU	retrograde	4655 Aug 21 19:30	3° \mathcal{U} 28'00	
morning rise	4649 Nov 06 03:53	4° \mathcal{M} 55'03			4655 Oct 09 04:12	30° \mathcal{R} \mathcal{Y}	
	4649 Dec 27 03:44	15° \mathcal{M}		opposition	4655 Oct 20 18:52	28° \mathcal{Y} 29'01	-1°-26'-15
retrograde	4650 Mar 06 13:31	21° \mathcal{M} 39'43		min. Earth dist.	4655 Oct 20 15:39	28° \mathcal{Y} 30'05	3.95470 AU
opposition	4650 May 06 04:09	16° \mathcal{M} 44'56	1°24'11	direct	4655 Dec 18 08:21	23° \mathcal{Y} 35'08	
min. Earth dist.	4650 May 06 18:19	16° \mathcal{M} 40'22	4.47358 AU		4656 Feb 21 00:33	0° \mathcal{U}	
	4650 May 20 00:08	15° \mathcal{R} \mathcal{M}		evening set	4656 Apr 22 06:52	13° \mathcal{U} 25'10	

	4656 Apr 28 19:13	15°♄		morning rise	4661 Nov 10 11:43	9°♍15'17	
					4661 Dec 08 03:59	15°♍	
conjunction	4656 May 05 12:03	16°♄37'54	0°-57'-17	retrograde	4662 Mar 10 19:06	25°♍58'06	
minimum elong	4656 May 05 12:04	16°♄37'55	0°57'18	opposition	4662 May 10 10:27	21°♍03'46	1°23'00
max. Earth dist.	4656 May 06 09:06	16°♄50'43	5.93172 AU	min. Earth dist.	4662 May 11 02:55	20°♍58'27	4.47553 AU
morning rise	4656 May 18 20:16	19°♄52'16		direct	4662 Jul 11 23:48	16°♍01'38	
	4656 Jul 02 04:13	0°♄			4662 Oct 29 23:33	0°♄	
retrograde	4656 Sep 28 06:47	10°♄39'55		evening set	4662 Nov 15 00:36	3°♄23'00	
opposition	4656 Nov 26 22:23	5°♄37'14	-1°-17'-16	max. Earth dist.	4662 Nov 26 10:46	5°♄50'37	6.47089 AU
min. Earth dist.	4656 Nov 25 20:48	5°♄45'53	3.93520 AU				
direct	4657 Jan 23 19:32	0°♄42'42		conjunction	4662 Nov 27 22:38	6°♄09'59	0°51'56
evening set	4657 May 30 00:15	20°♄32'18		minimum elong	4662 Nov 27 22:39	6°♄10'00	0°51'58
				morning rise	4662 Dec 10 18:15	8°♄55'51	
conjunction	4657 Jun 12 13:23	23°♄47'18	0°-40'-16	retrograde	4663 Apr 10 01:03	25°♄39'06	
minimum elong	4657 Jun 12 13:25	23°♄47'20	0°40'18	opposition	4663 Jun 09 22:07	20°♄46'35	1°02'41
max. Earth dist.	4657 Jun 14 15:45	24°♄17'34	5.96249 AU	min. Earth dist.	4663 Jun 11 05:00	20°♄36'43	4.44800 AU
morning rise	4657 Jun 26 05:03	27°♄03'32		direct	4663 Aug 11 16:39	15°♄45'18	
	4657 Jul 08 16:33	0°♄			4663 Nov 30 04:00	0°♄	
retrograde	4657 Nov 04 10:33	17°♄24'50		evening set	4663 Dec 15 09:45	3°♄16'27	
min. Earth dist.	4658 Jan 01 10:49	12°♄32'17	4.01267 AU	max. Earth dist.	4663 Dec 26 03:02	5°♄37'26	6.40557 AU
opposition	4658 Jan 02 22:35	12°♄20'06	0°-37'-25				
direct	4658 Mar 02 01:54	7°♄23'07		conjunction	4663 Dec 28 04:12	6°♄04'29	0°31'09
evening set	4658 Jul 06 11:51	26°♄43'25		minimum elong	4663 Dec 28 04:13	6°♄04'29	0°31'09
				morning rise	4664 Jan 09 20:33	8°♄51'44	
conjunction	4658 Jul 20 05:07	29°♄54'54	0°-8'-3	retrograde	4664 May 10 15:10	26°♄04'36	
minimum elong	4658 Jul 20 05:07	29°♄54'54	0°08'05	opposition	4664 Jul 10 14:24	21°♄12'27	0°24'49
behind sun begin	4658 Jul 19 21:41	29°♄50'36		min. Earth dist.	4664 Jul 12 04:08	21°♄00'26	4.34809 AU
behind sun end	4658 Jul 20 12:33	29°♄59'13		direct	4664 Sep 10 22:01	16°♄12'46	
	4658 Jul 20 13:51	0°♄			4664 Dec 26 08:02	0°♄	
max. Earth dist.	4658 Jul 22 15:06	0°♄28'39	6.07862 AU	evening set	4665 Jan 14 09:30	4°♄11'57	
morning rise	4658 Aug 02 23:42	3°♄06'45		max. Earth dist.	4665 Jan 24 22:19	6°♄34'48	6.27818 AU
	4658 Sep 28 02:04	15°♄					
asc. node	4658 Oct 19 14:18	18°♄30'48		conjunction	4665 Jan 27 02:24	7°♄04'20	0°00'59
retrograde	4658 Dec 09 01:19	22°♄23'24		minimum elong	4665 Jan 27 02:22	7°♄04'19	0°01'00
min. Earth dist.	4659 Feb 05 07:35	17°♄30'55	4.15418 AU	behind sun begin	4665 Jan 26 18:24	6°♄59'49	
opposition	4659 Feb 06 17:42	17°♄19'21	0°14'09	behind sun end	4665 Jan 27 10:20	7°♄08'49	
	4659 Feb 24 14:43	15°♄		desc. node	4665 Feb 07 16:39	9°♄41'58	
direct	4659 Apr 06 20:15	12°♄19'36		morning rise	4665 Feb 08 18:34	9°♄56'34	
	4659 May 18 09:09	15°♄			4665 Mar 03 16:32	15°♄	
	4659 Aug 07 04:04	0°♄		retrograde	4665 Jun 13 11:12	28°♄05'42	
evening set	4659 Aug 11 10:30	0°♄57'03		opposition	4665 Aug 13 05:45	23°♄12'21	0°-22'-38
				min. Earth dist.	4665 Aug 14 15:39	23°♄01'28	4.20058 AU
conjunction	4659 Aug 25 02:18	4°♄00'57	0°25'43	direct	4665 Oct 13 11:54	18°♄14'50	
minimum elong	4659 Aug 25 02:17	4°♄00'57	0°25'43		4666 Jan 16 00:09	0°♄	
max. Earth dist.	4659 Aug 26 21:29	4°♄25'13	6.23320 AU	evening set	4666 Feb 15 21:32	6°♄55'37	
morning rise	4659 Sep 07 17:42	7°♄04'20		max. Earth dist.	4666 Feb 27 02:16	9°♄32'50	6.12272 AU
retrograde	4660 Jan 10 08:22	25°♄10'07					
min. Earth dist.	4660 Mar 09 10:47	20°♄15'38	4.30738 AU	conjunction	4666 Feb 28 15:54	9°♄54'54	0°-30'-53
opposition	4660 Mar 10 06:51	20°♄08'56	0°57'35	minimum elong	4666 Feb 28 15:53	9°♄54'54	0°30'54
direct	4660 May 09 18:43	15°♄07'17		morning rise	4666 Mar 13 10:44	12°♄54'47	
	4660 Aug 29 22:35	0°♄			4666 Jun 11 06:28	0°♄	
evening set	4660 Sep 13 07:12	3°♄04'48		retrograde	4666 Jul 19 18:28	2°♄15'59	
					4666 Aug 27 12:09	30°♄	
conjunction	4660 Sep 26 17:40	6°♄00'33	0°49'47	opposition	4666 Sep 18 03:36	27°♄20'07	-1°-6'00
minimum elong	4660 Sep 26 17:39	6°♄00'32	0°49'48	min. Earth dist.	4666 Sep 18 21:20	27°♄14'20	4.04940 AU
max. Earth dist.	4660 Sep 27 11:34	6°♄10'20	6.37313 AU	direct	4666 Nov 16 21:47	22°♄24'59	
morning rise	4660 Oct 10 02:12	8°♄55'11			4667 Jan 27 21:07	0°♄	
retrograde	4661 Feb 08 20:54	26°♄06'27		evening set	4667 Mar 22 12:58	11°♄49'18	
opposition	4661 Apr 10 04:59	21°♄08'55	1°21'39				
min. Earth dist.	4661 Apr 10 02:14	21°♄09'49	4.42465 AU	conjunction	4667 Apr 04 11:45	14°♄56'23	0°-53'-28
direct	4661 Jun 10 21:25	16°♄06'34		minimum elong	4667 Apr 04 11:44	14°♄56'23	0°53'30
	4661 Sep 28 01:46	0°♄		max. Earth dist.	4667 Apr 04 01:18	14°♄50'05	5.98935 AU
evening set	4661 Oct 15 06:47	3°♄37'16		morning rise	4667 Apr 17 12:45	18°♄04'50	
					4667 Jun 10 05:19	0°♄	
conjunction	4661 Oct 28 10:31	6°♄26'55	0°58'49	retrograde	4667 Aug 26 21:35	8°♄29'43	
minimum elong	4661 Oct 28 10:31	6°♄26'55	0°58'49	opposition	4667 Oct 25 20:34	3°♄30'15	-1°-27'-6
max. Earth dist.	4661 Oct 27 23:18	6°♄20'53	6.45921 AU	min. Earth dist.	4667 Oct 25 14:32	3°♄32'15	3.94793 AU

	4667 Nov 24 07:03	30° Υ		conjunction	4673 Nov 01 18:31	10° \mathbb{M} 46'49	0°58'45
direct	4667 Dec 23 07:16	28° Υ 36'22		minimum elong	4673 Nov 01 18:31	10° \mathbb{M} 46'49	0°58'45
	4668 Jan 21 03:42	0° \mathcal{B}		max. Earth dist.	4673 Nov 01 04:19	10° \mathbb{M} 39'11	6.46532 AU
	4668 Apr 12 18:03	15° \mathcal{B}		morning rise	4673 Nov 14 18:48	13° \mathbb{M} 34'36	
evening set	4668 Apr 27 05:52	18° \mathcal{B} 28'01			4673 Nov 21 11:18	15° \mathbb{M}	
					4674 Mar 02 03:45	0° \mathcal{A}	
conjunction	4668 May 10 12:18	21° \mathcal{B} 41'24	0°-56'-16	retrograde	4674 Mar 14 22:53	0° \mathcal{A} 15'31	
minimum elong	4668 May 10 12:19	21° \mathcal{B} 41'25	0°56'17		4674 Mar 27 18:25	30° \mathbb{R} \mathbb{M}	
max. Earth dist.	4668 May 11 14:15	21° \mathcal{B} 57'11	5.92964 AU	opposition	4674 May 14 16:02	25° \mathbb{M} 21'24	1°21'19
morning rise	4668 May 23 21:29	24° \mathcal{B} 56'21		min. Earth dist.	4674 May 15 09:52	25° \mathbb{M} 15'39	4.47717 AU
	4668 Jun 14 06:22	0° \mathbb{I}		direct	4674 Jul 16 06:06	20° \mathbb{M} 19'17	
retrograde	4668 Oct 03 09:42	15° \mathbb{I} 44'20			4674 Oct 12 15:38	0° \mathcal{A}	
opposition	4668 Dec 01 23:01	10° \mathbb{I} 41'21	-1°-13'-27	evening set	4674 Nov 19 06:26	7° \mathcal{A} 40'22	
min. Earth dist.	4668 Nov 30 20:42	10° \mathbb{I} 50'15	3.93810 AU	max. Earth dist.	4674 Nov 30 14:41	10° \mathcal{A} 07'05	6.46766 AU
direct	4669 Jan 28 19:53	5° \mathbb{I} 46'37					
evening set	4669 Jun 04 01:35	25° \mathbb{I} 35'03		conjunction	4674 Dec 02 03:52	10° \mathcal{A} 27'13	0°49'45
				minimum elong	4674 Dec 02 03:54	10° \mathcal{A} 27'13	0°49'45
conjunction	4669 Jun 17 15:34	28° \mathbb{I} 50'07	0°-36'-35	morning rise	4674 Dec 14 22:47	13° \mathcal{A} 12'57	
minimum elong	4669 Jun 17 15:36	28° \mathbb{I} 50'09	0°36'36	retrograde	4675 Apr 14 07:58	29° \mathcal{A} 58'01	
max. Earth dist.	4669 Jun 19 19:20	29° \mathbb{I} 21'08	5.97004 AU	opposition	4675 Jun 14 05:58	25° \mathcal{A} 05'37	0°58'16
	4669 Jun 22 12:15	0° \mathcal{S}		min. Earth dist.	4675 Jun 15 14:36	24° \mathcal{A} 55'13	4.43970 AU
morning rise	4669 Jul 01 08:11	2° \mathcal{S} 06'23		direct	4675 Aug 16 00:35	20° \mathcal{A} 04'29	
retrograde	4669 Nov 09 05:52	22° \mathcal{S} 22'30			4675 Nov 13 00:05	0° \mathcal{S}	
min. Earth dist.	4670 Jan 06 05:28	17° \mathcal{S} 30'21	4.02412 AU	evening set	4675 Dec 19 15:49	7° \mathcal{S} 37'50	
opposition	4670 Jan 07 18:19	17° \mathcal{S} 17'47	0°-30'-44	max. Earth dist.	4675 Dec 30 05:59	9° \mathcal{S} 57'36	6.39253 AU
direct	4670 Mar 06 22:14	12° \mathcal{S} 20'29					
	4670 Jul 04 09:44	0° \mathcal{Q}		conjunction	4676 Jan 01 09:46	10° \mathcal{S} 26'11	0°27'20
evening set	4670 Jul 11 11:36	1° \mathcal{Q} 37'36		minimum elong	4676 Jan 01 09:47	10° \mathcal{S} 26'11	0°27'20
				morning rise	4676 Jan 14 02:03	13° \mathcal{S} 13'52	
conjunction	4670 Jul 25 05:06	4° \mathcal{Q} 48'33	0°-3'-20		4676 Apr 26 11:14	0° \approx	
minimum elong	4670 Jul 25 05:05	4° \mathcal{Q} 48'33	0°03'21	retrograde	4676 May 15 04:31	0° \approx 32'32	
behind sun begin	4670 Jul 24 20:45	4° \mathcal{Q} 43'44			4676 Jun 02 21:48	30° \mathbb{R} \mathcal{B}	
behind sun end	4670 Jul 25 13:25	4° \mathcal{Q} 53'21		opposition	4676 Jul 15 03:11	25° \mathcal{B} 40'15	0°18'31
max. Earth dist.	4670 Jul 27 13:09	5° \mathcal{Q} 21'04	6.09306 AU	min. Earth dist.	4676 Jul 16 17:16	25° \mathcal{B} 28'06	4.33084 AU
morning rise	4670 Aug 07 23:44	7° \mathcal{Q} 59'43		direct	4676 Sep 15 08:26	20° \mathcal{B} 40'44	
asc. node	4670 Aug 31 14:32	13° \mathcal{Q} 18'00			4676 Dec 08 16:59	0° \approx	
	4670 Sep 08 13:02	15° \mathcal{Q}		desc. node	4676 Dec 18 18:27	2° \approx 00'27	
retrograde	4670 Dec 13 16:12	27° \mathcal{Q} 08'47		evening set	4677 Jan 18 18:55	8° \approx 44'40	
min. Earth dist.	4671 Feb 09 23:49	22° \mathcal{Q} 15'55	4.17002 AU	max. Earth dist.	4677 Jan 29 09:33	11° \approx 09'08	6.25811 AU
opposition	4671 Feb 11 07:56	22° \mathcal{Q} 05'02	0°20'50				
direct	4671 Apr 11 15:07	17° \mathcal{Q} 04'59		conjunction	4677 Jan 31 11:58	11° \approx 37'51	0°-3'-39
	4671 Jul 21 06:45	0° \mathbb{P}		minimum elong	4677 Jan 31 11:58	11° \approx 37'51	0°03'40
evening set	4671 Aug 16 05:33	5° \mathbb{P} 38'27		behind sun begin	4677 Jan 31 04:04	11° \approx 33'23	
				behind sun end	4677 Jan 31 19:52	11° \approx 42'20	
conjunction	4671 Aug 29 21:02	8° \mathbb{P} 41'30	0°29'43	morning rise	4677 Feb 13 04:11	14° \approx 30'58	
minimum elong	4671 Aug 29 21:00	8° \mathbb{P} 41'29	0°29'43		4677 Feb 15 07:30	15° \approx	
max. Earth dist.	4671 Aug 31 15:05	9° \mathbb{P} 05'03	6.24933 AU		4677 May 05 21:23	0° \mathbb{H}	
morning rise	4671 Sep 12 11:40	11° \mathbb{P} 43'52		retrograde	4677 Jun 18 07:54	2° \mathbb{H} 49'10	
retrograde	4672 Jan 14 16:12	29° \mathbb{P} 42'30			4677 Aug 01 09:18	30° \mathbb{R} \approx	
opposition	4672 Mar 14 16:05	24° \mathbb{P} 41'47	1°02'08	opposition	4677 Aug 18 01:37	27° \approx 55'34	0°-29'-18
min. Earth dist.	4672 Mar 13 20:52	24° \mathbb{P} 48'11	4.32257 AU	min. Earth dist.	4677 Aug 19 10:09	27° \approx 45'06	4.17903 AU
direct	4672 May 14 06:40	19° \mathbb{P} 40'01		direct	4677 Oct 18 02:38	22° \approx 58'21	
	4672 Aug 12 09:31	0° \mathcal{L}			4677 Dec 27 11:08	0° \mathbb{H}	
evening set	4672 Sep 17 20:56	7° \mathcal{L} 34'00		evening set	4678 Feb 20 13:23	11° \mathbb{H} 45'21	
				max. Earth dist.	4678 Mar 03 20:02	14° \mathbb{H} 24'28	6.10143 AU
conjunction	4672 Oct 01 06:25	10° \mathcal{L} 28'51	0°51'56				
minimum elong	4672 Oct 01 06:24	10° \mathcal{L} 28'50	0°51'56	conjunction	4678 Mar 05 08:01	14° \mathbb{H} 45'41	0°-34'-50
max. Earth dist.	4672 Oct 01 19:59	10° \mathcal{L} 36'15	6.38623 AU	minimum elong	4678 Mar 05 08:00	14° \mathbb{H} 45'40	0°34'50
morning rise	4672 Oct 14 14:03	13° \mathcal{L} 22'33		morning rise	4678 Mar 18 03:39	17° \mathbb{H} 46'46	
	4673 Jan 26 16:54	0° \mathbb{L}			4678 May 14 01:02	0° Υ	
retrograde	4673 Feb 13 03:26	0° \mathbb{L} 28'49		retrograde	4678 Jul 24 22:40	7° Υ 18'13	
	4673 Mar 02 10:31	30° \mathbb{R} \mathcal{L}		opposition	4678 Sep 23 06:52	2° Υ 21'49	-1°-10'-39
opposition	4673 Apr 14 11:18	25° \mathcal{L} 31'43	1°23'08	min. Earth dist.	4678 Sep 23 21:34	2° Υ 17'00	4.03022 AU
min. Earth dist.	4673 Apr 14 11:37	25° \mathcal{L} 31'37	4.43474 AU		4678 Oct 12 03:24	30° \mathbb{R} \mathbb{H}	
direct	4673 Jun 15 08:08	20° \mathcal{L} 29'18		direct	4678 Nov 21 20:14	27° \mathbb{H} 26'52	
	4673 Sep 10 10:36	0° \mathbb{L}			4678 Dec 31 20:15	0° Υ	
evening set	4673 Oct 19 15:34	7° \mathbb{L} 57'44		evening set	4679 Mar 27 12:24	16° Υ 56'49	

conjunction	4679 Apr 09 12:16	20° Υ 05'02	0°-55'-12	max. Earth dist.	4684 Oct 06 04:24	14° Ω 58'00	6.40465 AU
minimum elong	4679 Apr 09 12:15	20° Υ 05'01	0°55'14	morning rise	4684 Oct 18 23:53	17° Ω 44'36	
max. Earth dist.	4679 Apr 09 07:38	20° Υ 02'13	5.97423 AU		4684 Dec 21 21:05	0° \mathbb{M}	
morning rise	4679 Apr 22 14:10	23° Υ 14'37		retrograde	4685 Feb 17 04:59	4° \mathbb{M} 44'32	
	4679 May 21 12:51	0° \mathcal{B}			4685 Apr 17 02:18	30° \mathbb{R} Ω	
retrograde	4679 Sep 01 08:12	13° \mathcal{B} 46'24		opposition	4685 Apr 18 15:24	29° Ω 47'54	1°24'09
opposition	4679 Oct 31 04:06	8° \mathcal{B} 46'26	-1°-27'-21	min. Earth dist.	4685 Apr 18 17:35	29° Ω 47'11	4.44841 AU
min. Earth dist.	4679 Oct 30 19:43	8° \mathcal{B} 49'14	3.93874 AU	direct	4685 Jun 19 14:34	24° Ω 45'29	
direct	4679 Dec 28 12:05	3° \mathcal{B} 52'34			4685 Aug 20 23:26	0° \mathbb{M}	
	4680 Mar 25 14:13	15° \mathcal{B}		evening set	4685 Oct 23 21:32	12° \mathbb{M} 10'45	
evening set	4680 May 02 11:44	23° \mathcal{B} 46'32					
conjunction	4680 May 15 19:14	27° \mathcal{B} 00'34	0°-54'-45	conjunction	4685 Nov 05 23:27	14° \mathbb{M} 59'09	0°58'21
minimum elong	4680 May 15 19:15	27° \mathcal{B} 00'35	0°54'47	minimum elong	4685 Nov 05 23:27	14° \mathbb{M} 59'09	0°58'22
max. Earth dist.	4680 May 17 00:47	27° \mathcal{B} 18'33	5.92720 AU	max. Earth dist.	4685 Nov 05 04:32	14° \mathbb{M} 48'58	6.47309 AU
	4680 May 28 02:55	0° \mathbb{I}		morning rise	4685 Nov 18 22:54	17° \mathbb{M} 46'18	
morning rise	4680 May 29 05:47	0° \mathbb{I} 16'13			4686 Jan 22 14:00	0° \mathcal{A}	
retrograde	4680 Oct 08 15:45	21° \mathbb{I} 03'41		retrograde	4686 Mar 19 02:06	4° \mathcal{A} 25'18	
min. Earth dist.	4680 Dec 05 23:34	16° \mathbb{I} 10'21	3.94303 AU		4686 May 15 02:30	30° \mathbb{R} \mathbb{M}	
opposition	4680 Dec 07 05:07	16° \mathbb{I} 00'20	-1°-8'-49	opposition	4686 May 18 19:17	29° \mathbb{M} 31'33	1°19'15
direct	4681 Feb 03 00:13	11° \mathbb{I} 05'20		min. Earth dist.	4686 May 19 16:45	29° \mathbb{M} 24'39	4.47855 AU
	4681 Jun 05 18:02	0° \mathcal{E}		direct	4686 Jul 20 12:03	24° \mathbb{M} 29'29	
evening set	4681 Jun 09 09:00	0° \mathcal{E} 51'32			4686 Sep 22 19:14	0° \mathcal{A}	
				evening set	4686 Nov 23 09:41	11° \mathcal{A} 50'41	
conjunction	4681 Jun 22 23:48	4° \mathcal{E} 06'27	0°-32'-24	max. Earth dist.	4686 Dec 04 13:32	14° \mathcal{A} 15'18	6.46231 AU
minimum elong	4681 Jun 22 23:50	4° \mathcal{E} 06'28	0°32'25				
max. Earth dist.	4681 Jun 25 05:20	4° \mathcal{E} 38'25	5.98196 AU	conjunction	4686 Dec 06 06:32	14° \mathcal{A} 37'31	0°47'21
morning rise	4681 Jul 06 17:05	7° \mathcal{E} 22'25		minimum elong	4686 Dec 06 06:34	14° \mathcal{A} 37'31	0°47'22
retrograde	4681 Nov 14 06:12	27° \mathcal{E} 30'59		morning rise	4686 Dec 19 00:57	17° \mathcal{A} 23'16	
min. Earth dist.	4682 Jan 11 05:47	22° \mathcal{E} 38'43	4.04164 AU		4687 Feb 23 15:08	0° \mathcal{B}	
opposition	4682 Jan 12 18:31	22° \mathcal{E} 26'12	0°-23'-29	retrograde	4687 Apr 18 13:17	4° \mathcal{B} 11'12	
direct	4682 Mar 12 02:21	17° \mathcal{E} 28'28			4687 Jun 13 02:24	30° \mathbb{R} \mathcal{A}	
	4682 Jun 16 18:45	0° \mathcal{Q}		opposition	4687 Jun 18 11:43	29° \mathcal{A} 18'54	0°53'38
asc. node	4682 Jul 11 06:56	5° \mathcal{Q} 26'27		min. Earth dist.	4687 Jun 19 21:36	29° \mathcal{A} 08'06	4.42794 AU
evening set	4682 Jul 16 14:58	6° \mathcal{Q} 39'44		direct	4687 Aug 20 04:37	24° \mathcal{A} 17'53	
					4687 Oct 24 06:27	0° \mathcal{B}	
conjunction	4682 Jul 30 08:35	9° \mathcal{Q} 49'42	0°01'43	evening set	4687 Dec 23 20:12	11° \mathcal{B} 54'56	
minimum elong	4682 Jul 30 08:34	9° \mathcal{Q} 49'42	0°01'43	max. Earth dist.	4688 Jan 03 09:55	14° \mathcal{B} 15'00	6.37511 AU
behind sun begin	4682 Jul 30 00:10	9° \mathcal{Q} 44'53					
behind sun end	4682 Jul 30 16:58	9° \mathcal{Q} 54'31		conjunction	4688 Jan 05 14:00	14° \mathcal{B} 43'52	0°23'26
max. Earth dist.	4682 Aug 01 17:41	10° \mathcal{Q} 22'39	6.11481 AU	minimum elong	4688 Jan 05 14:01	14° \mathcal{B} 43'53	0°23'28
morning rise	4682 Aug 13 02:50	12° \mathcal{Q} 59'43		morning rise	4688 Jan 18 06:02	17° \mathcal{B} 32'12	
	4682 Aug 21 22:41	15° \mathcal{Q}			4688 Mar 21 16:38	0° \approx	
	4682 Nov 12 23:16	0° \mathbb{P}		retrograde	4688 May 19 17:51	4° \approx 58'27	
retrograde	4682 Dec 18 06:55	1° \mathbb{P} 57'59		opposition	4688 Jul 19 15:27	0° \approx 06'09	0°12'10
	4683 Jan 22 08:14	30° \mathbb{R} \mathcal{Q}			4688 Jul 20 10:43	30° \mathbb{R} \mathcal{B}	
opposition	4683 Feb 15 23:48	26° \mathcal{Q} 54'34	0°27'34	min. Earth dist.	4688 Jul 21 06:23	29° \mathcal{B} 53'44	4.30865 AU
min. Earth dist.	4683 Feb 14 16:04	27° \mathcal{Q} 05'17	4.19387 AU	direct	4688 Sep 19 17:16	25° \mathcal{B} 06'56	
direct	4683 Apr 16 10:44	21° \mathcal{Q} 54'14		desc. node	4688 Oct 29 14:12	27° \mathcal{B} 27'36	
	4683 Jul 02 03:10	0° \mathbb{P}			4688 Nov 17 12:18	0° \approx	
evening set	4683 Aug 21 01:41	10° \mathbb{P} 20'48		evening set	4689 Jan 23 04:25	13° \approx 17'34	
					4689 Jan 30 16:05	15° \approx	
conjunction	4683 Sep 03 16:16	13° \mathbb{P} 22'29	0°33'36	max. Earth dist.	4689 Feb 02 18:20	15° \approx 42'30	6.23278 AU
minimum elong	4683 Sep 03 16:14	13° \mathbb{P} 22'28	0°33'36				
max. Earth dist.	4683 Sep 05 05:52	13° \mathbb{P} 43'26	6.27322 AU	conjunction	4689 Feb 04 21:27	16° \approx 11'48	0°-8'-8
morning rise	4683 Sep 17 06:06	16° \mathbb{P} 23'25		minimum elong	4689 Feb 04 21:27	16° \approx 11'48	0°08'09
	4683 Nov 26 16:25	0° Ω		behind sun begin	4689 Feb 04 14:21	16° \approx 07'44	
retrograde	4684 Jan 18 23:58	4° Ω 12'20		behind sun end	4689 Feb 05 04:34	16° \approx 15'51	
	4684 Mar 12 23:55	30° \mathbb{R} \mathbb{P}		morning rise	4689 Feb 17 14:12	19° \approx 06'08	
min. Earth dist.	4684 Mar 18 08:35	29° \mathbb{P} 17'26	4.34459 AU		4689 Apr 10 05:57	0° \mathcal{H}	
opposition	4684 Mar 19 00:45	29° \mathbb{P} 12'03	1°06'19	retrograde	4689 Jun 23 06:52	7° \mathcal{H} 35'44	
direct	4684 May 18 20:54	24° \mathbb{P} 10'04		opposition	4689 Aug 22 22:47	2° \mathcal{H} 41'49	0°-35'-48
	4684 Jul 23 00:20	0° Ω		min. Earth dist.	4689 Aug 24 05:16	2° \mathcal{H} 31'58	4.15235 AU
evening set	4684 Sep 22 08:51	11° Ω 58'22			4689 Sep 14 01:47	30° \mathbb{R} \approx	
				direct	4689 Oct 22 18:13	27° \approx 44'56	
conjunction	4684 Oct 05 17:31	14° Ω 52'06	0°53'48		4689 Nov 29 23:02	0° \mathcal{H}	
minimum elong	4684 Oct 05 17:30	14° Ω 52'05	0°53'47	evening set	4690 Feb 25 07:08	16° \mathcal{H} 40'14	

max. Earth dist.	4690 Mar 08 19:18	19° κ 23'25	6.07590 AU	conjunction	4695 Sep 08 10:45	18° η 02'34	0°37'18
				minimum elong	4695 Sep 08 10:43	18° η 02'33	0°37'18
conjunction	4690 Mar 10 02:33	19° κ 41'57	0°-38'-34	max. Earth dist.	4695 Sep 09 21:50	18° η 22'02	6.29655 AU
minimum elong	4690 Mar 10 02:31	19° κ 41'56	0°38'34	morning rise	4695 Sep 21 23:27	21° η 02'05	
morning rise	4690 Mar 22 22:48	22° κ 44'29			4695 Nov 04 05:12	0° ♏	
	4690 Apr 23 19:31	0° γ		retrograde	4696 Jan 23 06:44	8° ♏ 41'55	
retrograde	4690 Jul 30 07:35	12° γ 27'44		opposition	4696 Mar 23 09:15	3° ♏ 42'11	1°10'10
opposition	4690 Sep 28 12:46	7° γ 30'58	-1°-14'-50	min. Earth dist.	4696 Mar 22 19:21	3° ♏ 46'47	4.36464 AU
min. Earth dist.	4690 Sep 29 00:56	7° γ 26'59	4.00841 AU		4696 Apr 24 00:36	30° ♏	
direct	4690 Nov 26 21:13	2° γ 36'21		direct	4696 May 23 09:26	28° η 40'07	
evening set	4691 Apr 01 15:26	22° γ 12'59			4696 Jun 22 03:57	0° ♏	
				evening set	4696 Sep 26 20:48	16° ♏ 23'30	
conjunction	4691 Apr 14 16:13	25° γ 22'25	0°-56'-30	conjunction	4696 Oct 10 04:19	19° ♏ 16'11	0°55'23
minimum elong	4691 Apr 14 16:12	25° γ 22'24	0°56'31	minimum elong	4696 Oct 10 04:18	19° ♏ 16'11	0°55'23
max. Earth dist.	4691 Apr 14 15:41	25° γ 22'05	5.95819 AU	max. Earth dist.	4696 Oct 10 09:16	19° ♏ 18'52	6.41990 AU
morning rise	4691 Apr 27 19:31	28° γ 33'19		morning rise	4696 Oct 23 09:47	22° ♏ 07'41	
	4691 May 03 19:55	0° ♄			4696 Nov 30 21:18	0° ♏	
	4691 Jul 16 04:15	15° ♄		retrograde	4697 Feb 21 09:42	9° ♏ 02'36	
retrograde	4691 Sep 06 19:21	19° ♄ 11'54		opposition	4697 Apr 22 20:33	4° ♏ 06'24	1°24'46
	4691 Oct 30 12:41	15° ♄		min. Earth dist.	4697 Apr 23 02:29	4° ♏ 04'29	4.45815 AU
opposition	4691 Nov 05 14:28	14° ♄ 11'24	-1°-26'-49		4697 May 30 01:39	30° ♄	
min. Earth dist.	4691 Nov 05 01:18	14° ♄ 15'48	3.93062 AU	direct	4697 Jun 23 23:41	29° ♏ 03'56	
direct	4692 Jan 02 18:08	9° ♄ 17'32			4697 Jul 19 03:54	0° ♏	
	4692 Mar 03 04:26	15° ♄			4697 Oct 21 08:03	15° ♏	
evening set	4692 May 07 20:42	29° ♄ 13'12		evening set	4697 Oct 28 04:30	16° ♏ 27'15	
	4692 May 11 02:03	0° ♏		max. Earth dist.	4697 Nov 09 08:06	19° ♏ 03'34	6.47665 AU
conjunction	4692 May 21 05:25	2° ♏ 27'48	0°-52'-43	conjunction	4697 Nov 10 05:47	19° ♏ 15'14	0°57'42
minimum elong	4692 May 21 05:26	2° ♏ 27'49	0°52'44	minimum elong	4697 Nov 10 05:48	19° ♏ 15'14	0°57'42
max. Earth dist.	4692 May 22 16:18	2° ♏ 49'00	5.92776 AU	morning rise	4697 Nov 23 04:16	22° ♏ 01'55	
morning rise	4692 Jun 03 17:05	5° ♏ 43'56			4698 Jan 01 10:57	0° ♄	
retrograde	4692 Oct 14 00:12	26° ♏ 29'09		retrograde	4698 Mar 23 05:42	8° ♄ 40'21	
min. Earth dist.	4692 Dec 11 05:55	21° ♏ 35'58	3.95202 AU	opposition	4698 May 23 00:36	3° ♄ 46'51	1°16'48
opposition	4692 Dec 12 13:09	21° ♏ 25'21	-1°-3'-29	min. Earth dist.	4698 May 23 23:32	3° ♄ 39'30	4.47591 AU
direct	4693 Feb 08 09:46	16° ♏ 29'59			4698 Jun 25 13:24	30° ♄	
	4693 May 18 21:21	0° ♄		direct	4698 Jul 24 17:20	28° ♏ 44'54	
evening set	4693 Jun 14 17:57	6° ♄ 12'07			4698 Aug 23 03:38	0° ♄	
conjunction	4693 Jun 28 09:34	9° ♄ 26'35	0°-27'-53	evening set	4698 Nov 27 15:12	16° ♄ 07'18	
minimum elong	4693 Jun 28 09:35	9° ♄ 26'36	0°27'55	max. Earth dist.	4698 Dec 08 15:51	18° ♄ 30'32	6.45362 AU
max. Earth dist.	4693 Jun 30 18:48	10° ♄ 00'36	5.99832 AU	conjunction	4698 Dec 10 11:26	18° ♄ 54'13	0°44'40
morning rise	4693 Jul 12 03:15	12° ♄ 41'57		minimum elong	4698 Dec 10 11:28	18° ♄ 54'13	0°44'40
	4693 Oct 08 21:45	0° ♏		morning rise	4698 Dec 23 05:26	21° ♄ 40'09	
retrograde	4693 Nov 19 06:05	2° ♏ 40'48			4699 Feb 01 23:21	0° ♄	
	4693 Dec 30 10:03	30° ♄		retrograde	4699 Apr 22 23:34	8° ♄ 32'03	
min. Earth dist.	4694 Jan 16 05:20	27° ♄ 48'41	4.06319 AU	opposition	4699 Jun 22 21:12	3° ♄ 39'51	0°48'35
opposition	4694 Jan 17 18:32	27° ♄ 36'01	0°-16'-2	min. Earth dist.	4699 Jun 24 09:21	3° ♄ 28'20	4.41356 AU
direct	4694 Mar 17 05:22	22° ♄ 37'53			4699 Jul 25 05:40	30° ♄	
asc. node	4694 May 20 05:48	28° ♄ 43'57		direct	4699 Aug 24 13:37	28° ♄ 39'02	
	4694 May 27 09:39	0° ♏			4699 Sep 23 22:06	0° ♄	
evening set	4694 Jul 21 18:26	11° ♏ 42'02		evening set	4699 Dec 28 03:45	16° ♄ 20'15	
conjunction	4694 Aug 04 11:42	14° ♏ 50'46	0°06'41	max. Earth dist.	4700 Jan 07 15:20	18° ♄ 39'47	6.35608 AU
minimum elong	4694 Aug 04 11:42	14° ♏ 50'46	0°06'40	conjunction	4700 Jan 09 21:19	19° ♄ 09'50	0°19'17
behind sun begin	4694 Aug 04 03:54	14° ♏ 46'19		minimum elong	4700 Jan 09 21:20	19° ♄ 09'51	0°19'18
behind sun end	4694 Aug 04 19:30	14° ♏ 55'13		morning rise	4700 Jan 22 13:23	21° ♄ 58'55	
	4694 Aug 05 03:49	15° ♏			4700 Mar 01 12:50	0° ≈	
max. Earth dist.	4694 Aug 06 17:54	15° ♏ 21'52	6.13925 AU	retrograde	4700 May 25 10:27	9° ≈ 33'20	
morning rise	4694 Aug 18 05:44	17° ♏ 59'30		opposition	4700 Jul 25 07:42	4° ≈ 40'52	0°05'29
	4694 Oct 15 01:59	0° ♏		min. Earth dist.	4700 Jul 26 21:29	4° ≈ 28'47	4.28618 AU
retrograde	4694 Dec 22 20:24	6° ♏ 46'23		desc. node	4700 Sep 08 22:09	0° ≈ 06'33	
min. Earth dist.	4695 Feb 19 09:12	1° ♏ 53'19	4.21871 AU		4700 Sep 11 06:47	30° ♄	
opposition	4695 Feb 20 15:00	1° ♏ 43'15	0°34'05	direct	4700 Sep 25 04:58	29° ♄ 41'56	
	4695 Mar 05 16:09	30° ♄			4700 Oct 09 04:54	0° ≈	
direct	4695 Apr 21 06:51	26° ♏ 42'34			4701 Jan 15 11:46	15° ≈	
	4695 Jun 07 02:30	0° ♏		evening set	4701 Jan 28 17:31	17° ≈ 59'08	
evening set	4695 Aug 25 20:46	15° ♏ 02'12					

max. Earth dist.	4701 Feb 08 10:46	20° \approx 26'45	6.20884 AU	conjunction	4706 Aug 10 10:24	19° Ω 40'40	0°11'23
				minimum elong	4706 Aug 10 10:23	19° Ω 40'39	0°11'23
conjunction	4701 Feb 10 10:49	20° \approx 54'26	0°-12'-45	behind sun begin	4706 Aug 10 04:24	19° Ω 37'16	
minimum elong	4701 Feb 10 10:48	20° \approx 54'25	0°12'45	behind sun end	4706 Aug 10 16:22	19° Ω 44'03	
behind sun begin	4701 Feb 10 05:41	20° \approx 51'29		max. Earth dist.	4706 Aug 12 15:09	20° Ω 10'46	6.16338 AU
behind sun end	4701 Feb 10 15:55	20° \approx 57'21		morning rise	4706 Aug 24 03:44	22° Ω 48'02	
morning rise	4701 Feb 23 03:45	23° \approx 49'52			4706 Sep 26 05:18	0° \cap	
	4701 Mar 22 20:38	0° \times		retrograde	4706 Dec 28 07:19	11° \cap 24'23	
retrograde	4701 Jun 29 09:49	12° \times 30'17		min. Earth dist.	4707 Feb 24 23:03	6° \cap 30'56	4.24175 AU
opposition	4701 Aug 28 23:42	7° \times 36'06	0°-42'-18	opposition	4707 Feb 26 02:25	6° \cap 21'44	0°40'08
min. Earth dist.	4701 Aug 30 04:45	7° \times 26'42	4.12890 AU	direct	4707 Apr 26 23:02	1° \cap 20'51	
direct	4701 Oct 28 14:33	2° \times 39'39		evening set	4707 Aug 31 12:17	19° \cap 34'32	
evening set	4702 Mar 03 03:55	21° \times 41'48					
				conjunction	4707 Sep 14 01:21	22° \cap 33'43	0°40'39
conjunction	4702 Mar 15 23:49	24° \times 44'40	0°-42'-8	minimum elong	4707 Sep 14 01:19	22° \cap 33'42	0°40'39
minimum elong	4702 Mar 15 23:47	24° \times 44'39	0°42'10	max. Earth dist.	4707 Sep 15 07:26	22° \cap 50'20	6.31659 AU
max. Earth dist.	4702 Mar 14 19:32	24° \times 27'50	6.05515 AU	morning rise	4707 Sep 27 13:14	25° \cap 32'02	
morning rise	4702 Mar 28 21:02	27° \times 48'30			4707 Oct 18 08:40	0° $\underline{\cap}$	
	4702 Apr 07 04:39	0° Υ		retrograde	4708 Jan 28 10:55	13° $\underline{\cap}$ 04'25	
retrograde	4702 Aug 05 15:58	17° Υ 41'33		opposition	4708 Mar 28 14:56	8° $\underline{\cap}$ 05'11	1°13'31
opposition	4702 Oct 04 20:40	12° Υ 44'17	-1°-18'-32	min. Earth dist.	4708 Mar 28 03:59	8° $\underline{\cap}$ 08'49	4.38053 AU
min. Earth dist.	4702 Oct 05 04:02	12° Υ 41'52	3.99279 AU	direct	4708 May 28 18:56	3° $\underline{\cap}$ 03'01	
direct	4702 Dec 02 23:37	7° Υ 49'56		evening set	4708 Oct 02 06:02	20° $\underline{\cap}$ 43'06	
evening set	4703 Apr 07 19:30	27° Υ 30'40					
	4703 Apr 18 01:53	0° B		conjunction	4708 Oct 15 12:50	23° $\underline{\cap}$ 35'03	0°56'39
				minimum elong	4708 Oct 15 12:49	23° $\underline{\cap}$ 35'02	0°56'40
conjunction	4703 Apr 20 21:18	0° B 40'59	0°-57'-23	max. Earth dist.	4708 Oct 15 14:41	23° $\underline{\cap}$ 36'03	6.43060 AU
minimum elong	4703 Apr 20 21:17	0° B 40'58	0°57'24	morning rise	4708 Oct 28 17:09	26° $\underline{\cap}$ 25'44	
max. Earth dist.	4703 Apr 21 03:07	0° B 44'31	5.94933 AU		4708 Nov 14 14:35	0° M	
morning rise	4703 May 04 01:35	3° B 52'46		retrograde	4709 Feb 26 12:17	13° M 17'21	
	4703 Jun 22 06:48	15° B		opposition	4709 Apr 28 00:24	8° M 21'40	1°24'59
retrograde	4703 Sep 13 06:10	24° B 34'59		min. Earth dist.	4709 Apr 28 08:37	8° M 19'00	4.46325 AU
min. Earth dist.	4703 Nov 11 08:10	19° B 39'15	3.92970 AU	direct	4709 Jun 29 05:46	3° M 19'19	
opposition	4703 Nov 12 00:05	19° B 33'54	-1°-25'-34		4709 Oct 05 21:19	15° M	
	4703 Dec 26 04:24	15° R B		evening set	4709 Nov 02 10:25	20° M 42'09	
direct	4704 Jan 09 02:25	14° B 39'59		max. Earth dist.	4709 Nov 14 08:11	23° M 15'33	6.47573 AU
	4704 Jan 22 23:31	15° B					
	4704 Apr 24 21:30	0° II		conjunction	4709 Nov 15 10:46	23° M 29'52	0°56'44
evening set	4704 May 14 04:16	4° II 34'35		minimum elong	4709 Nov 15 10:47	23° M 29'52	0°56'44
				morning rise	4709 Nov 28 08:43	26° M 16'22	
conjunction	4704 May 27 14:06	7° II 49'22	0°-50'-18		4709 Dec 16 01:39	0° J	
minimum elong	4704 May 27 14:07	7° II 49'23	0°50'19	retrograde	4710 Mar 28 11:56	12° J 55'49	
max. Earth dist.	4704 May 29 06:23	8° II 13'47	5.93479 AU	opposition	4710 May 28 06:16	8° J 02'37	1°13'59
morning rise	4704 Jun 10 02:44	11° II 05'36		min. Earth dist.	4710 May 29 08:06	7° J 54'20	4.46927 AU
	4704 Sep 17 01:00	0° S		direct	4710 Jul 30 00:16	3° J 00'47	
retrograde	4704 Oct 20 05:22	1° S 45'41		evening set	4710 Dec 02 20:46	20° J 25'32	
	4704 Nov 22 04:01	30° R II		max. Earth dist.	4710 Dec 13 19:37	22° J 48'12	6.44178 AU
min. Earth dist.	4704 Dec 17 08:28	26° II 52'54	3.96629 AU				
opposition	4704 Dec 18 17:38	26° II 41'38	0°-57'-48	conjunction	4710 Dec 15 16:41	23° J 12'46	0°41'44
direct	4705 Feb 14 15:00	21° II 45'57		minimum elong	4710 Dec 15 16:43	23° J 12'46	0°41'46
	4705 Apr 30 04:58	0° S		morning rise	4710 Dec 28 10:12	25° J 59'01	
evening set	4705 Jun 20 23:26	11° S 22'30			4711 Jan 16 06:55	0° Z	
				retrograde	4711 Apr 28 08:53	12° Z 55'51	
conjunction	4705 Jul 04 15:22	14° S 36'15	0°-23'-20	opposition	4711 Jun 28 07:25	8° Z 03'42	0°43'14
minimum elong	4705 Jul 04 15:24	14° S 36'16	0°23'21	min. Earth dist.	4711 Jun 29 19:19	7° Z 52'15	4.39740 AU
max. Earth dist.	4705 Jul 07 00:12	15° S 09'51	6.01805 AU	direct	4711 Aug 29 20:47	3° Z 03'09	
morning rise	4705 Jul 18 09:33	17° S 50'49		evening set	4712 Jan 02 12:13	20° Z 49'01	
	4705 Sep 12 20:04	0° Ω		max. Earth dist.	4712 Jan 13 00:30	23° Z 09'34	6.33686 AU
retrograde	4705 Nov 25 00:13	7° Ω 39'18					
min. Earth dist.	4706 Jan 22 01:29	2° Ω 47'09	4.08610 AU	conjunction	4712 Jan 15 05:35	23° Z 39'16	0°15'01
opposition	4706 Jan 23 14:20	2° Ω 34'36	0°-8'-45	minimum elong	4712 Jan 15 05:36	23° Z 39'17	0°15'01
	4706 Feb 12 13:53	30° R S		behind sun begin	4712 Jan 15 02:30	23° Z 37'33	
direct	4706 Mar 23 04:40	27° S 36'03		behind sun end	4712 Jan 15 08:42	23° Z 41'00	
asc. node	4706 Mar 31 16:22	27° S 43'22		morning rise	4712 Jan 27 21:37	26° Z 29'06	
	4706 May 01 00:24	0° Ω			4712 Feb 12 21:55	0° \approx	
	4706 Jul 20 20:31	15° Ω		retrograde	4712 May 30 05:30	14° \approx 11'42	
evening set	4706 Jul 27 17:14	16° Ω 33'06		desc. node	4712 Jul 19 12:30	10° \approx 38'46	

opposition	4712 Jul 30 01:15	9°≈19'05	0°-1'-15	conjunction	4718 Aug 15 08:33	24°Ω28'34	0°16'00
min. Earth dist.	4712 Jul 31 15:07	9°≈06'58	4.26501 AU	minimum elong	4718 Aug 15 08:32	24°Ω28'33	0°16'00
direct	4712 Sep 29 20:02	4°≈20'30		max. Earth dist.	4718 Aug 17 10:40	24°Ω57'01	6.18364 AU
	4712 Dec 29 00:54	15°≈		morning rise	4718 Aug 29 01:30	27°Ω34'48	
evening set	4713 Feb 02 07:08	22°≈43'28			4718 Sep 08 21:44	0°η	
max. Earth dist.	4713 Feb 13 02:01	25°≈12'45	6.18746 AU	retrograde	4719 Jan 01 16:37	16°η01'59	
				min. Earth dist.	4719 Mar 01 11:48	11°η08'26	4.26096 AU
conjunction	4713 Feb 15 00:35	25°≈39'42	0°-17'-17	opposition	4719 Mar 02 13:43	10°η59'44	0°45'56
minimum elong	4713 Feb 15 00:34	25°≈39'42	0°17'17	direct	4719 May 01 13:52	5°η58'35	
morning rise	4713 Feb 27 18:00	28°≈36'13		evening set	4719 Sep 05 04:13	24°η07'35	
	4713 Mar 05 20:09	0°κ					
retrograde	4713 Jul 04 10:28	17°κ26'21		conjunction	4719 Sep 18 16:35	27°η05'47	0°43'47
opposition	4713 Sep 03 00:40	12°κ31'44	0°-48'-30	minimum elong	4719 Sep 18 16:34	27°η05'46	0°43'46
min. Earth dist.	4713 Sep 04 02:08	12°κ23'30	4.10901 AU	max. Earth dist.	4719 Sep 19 18:58	27°η20'18	6.33336 AU
direct	4713 Nov 02 10:02	7°κ35'36			4719 Oct 01 21:59	0°Ω	
evening set	4714 Mar 08 00:25	26°κ43'09		morning rise	4719 Oct 02 03:27	0°Ω02'59	
				retrograde	4720 Feb 01 17:46	17°Ω28'59	
conjunction	4714 Mar 20 20:54	29°κ47'00	0°-45'-22	opposition	4720 Apr 01 22:05	12°Ω30'19	1°16'29
minimum elong	4714 Mar 20 20:52	29°κ46'59	0°45'23	min. Earth dist.	4720 Apr 01 14:05	12°Ω32'57	4.39374 AU
max. Earth dist.	4714 Mar 19 21:47	29°κ33'11	6.03846 AU	direct	4720 Jun 02 06:44	7°Ω28'07	
	4714 Mar 21 18:38	0°Υ		evening set	4720 Oct 06 16:44	25°Ω05'28	
morning rise	4714 Apr 02 18:48	2°Υ51'53					
retrograde	4714 Aug 11 00:40	22°Υ52'56		conjunction	4720 Oct 19 22:33	27°Ω56'44	0°57'37
opposition	4714 Oct 10 02:59	17°Υ55'07	-1°-21'-33	minimum elong	4720 Oct 19 22:33	27°Ω56'44	0°57'37
min. Earth dist.	4714 Oct 10 07:52	17°Υ53'30	3.98085 AU	max. Earth dist.	4720 Oct 19 19:45	27°Ω55'13	6.43929 AU
direct	4714 Dec 08 02:54	13°Υ00'53			4720 Oct 29 11:03	0°η	
	4715 Apr 01 11:28	0°Ϡ		morning rise	4720 Nov 02 02:03	0°η46'44	
evening set	4715 Apr 12 22:02	2°Ϡ44'26			4721 Jan 20 02:45	15°η	
				retrograde	4721 Mar 02 17:01	17°η35'37	
conjunction	4715 Apr 26 00:53	5°Ϡ55'29	0°-57'-48		4721 Apr 13 12:12	15°η	
minimum elong	4715 Apr 26 00:53	5°Ϡ55'29	0°57'50	opposition	4721 May 02 06:10	12°η40'21	1°24'45
max. Earth dist.	4715 Apr 26 11:48	6°Ϡ02'08	5.94323 AU	min. Earth dist.	4721 May 02 16:44	12°η36'56	4.46737 AU
morning rise	4715 May 09 06:18	9°Ϡ08'04		direct	4721 Jul 03 13:46	7°η38'04	
	4715 Jun 03 03:20	15°Ϡ			4721 Sep 17 02:41	15°η	
retrograde	4715 Sep 18 13:43	29°Ϡ52'25		evening set	4721 Nov 06 17:55	25°η00'31	
min. Earth dist.	4715 Nov 16 11:45	24°Ϡ57'16	3.93039 AU				
opposition	4715 Nov 17 06:48	24°Ϡ50'52	-1°-23'-38	conjunction	4721 Nov 19 17:42	27°η48'00	0°55'29
direct	4716 Jan 14 06:26	19°Ϡ56'49		minimum elong	4721 Nov 19 17:42	27°η48'00	0°55'29
	4716 Apr 06 07:53	0°Π		max. Earth dist.	4721 Nov 18 13:51	27°η32'59	6.47528 AU
evening set	4716 May 19 09:43	9°Π50'06			4721 Nov 29 22:51	0°Ϡ	
				morning rise	4721 Dec 02 14:44	0°Ϡ34'14	
conjunction	4716 Jun 01 20:25	13°Π04'59	0°-47'-32	retrograde	4722 Apr 01 17:41	17°Ϡ14'24	
minimum elong	4716 Jun 01 20:27	13°Π05'00	0°47'33	opposition	4722 Jun 01 13:35	12°Ϡ21'30	1°10'44
max. Earth dist.	4716 Jun 03 14:34	13°Π30'28	5.94195 AU	min. Earth dist.	4722 Jun 02 16:15	12°Ϡ12'58	4.46460 AU
morning rise	4716 Jun 15 10:12	16°Π21'20		direct	4722 Aug 03 07:30	7°Ϡ19'57	
	4716 Aug 17 06:17	0°ϣ		evening set	4722 Dec 07 03:33	24°Ϡ46'07	
retrograde	4716 Oct 25 06:20	6°ϣ56'26		max. Earth dist.	4722 Dec 17 23:47	27°Ϡ07'46	6.43337 AU
min. Earth dist.	4716 Dec 22 08:55	2°ϣ03'51	3.97902 AU				
opposition	4716 Dec 23 19:28	1°ϣ52'05	0°-51'-46	conjunction	4722 Dec 19 22:48	27°Ϡ33'27	0°38'36
	4717 Jan 06 22:04	30°ϠΠ		minimum elong	4722 Dec 19 22:50	27°Ϡ33'28	0°38'36
direct	4717 Feb 19 18:18	26°Π55'59			4722 Dec 31 03:23	0°Ϡ	
	4717 Apr 04 06:34	0°ϣ		morning rise	4723 Jan 01 16:04	0°Ϡ19'56	
evening set	4717 Jun 26 03:03	16°ϣ27'55		retrograde	4723 May 02 20:57	17°Ϡ20'40	
				opposition	4723 Jul 02 18:52	12°Ϡ28'34	0°37'41
conjunction	4717 Jul 09 19:39	19°ϣ41'06	0°-18'-39	min. Earth dist.	4723 Jul 04 07:53	12°Ϡ16'46	4.38572 AU
minimum elong	4717 Jul 09 19:40	19°ϣ41'07	0°18'40	direct	4723 Sep 03 08:00	7°Ϡ28'18	
max. Earth dist.	4717 Jul 12 05:41	20°ϣ15'16	6.03526 AU	evening set	4724 Jan 06 20:23	25°Ϡ17'03	
morning rise	4717 Jul 23 13:56	22°ϣ54'55		max. Earth dist.	4724 Jan 17 09:13	27°Ϡ38'22	6.32291 AU
	4717 Aug 24 00:21	0°Ω					
retrograde	4717 Nov 29 19:01	12°Ω34'09		conjunction	4724 Jan 19 13:37	28°Ϡ07'47	0°10'43
min. Earth dist.	4718 Jan 26 21:19	7°Ω41'38	4.10571 AU	minimum elong	4724 Jan 19 13:38	28°Ϡ07'47	0°10'43
opposition	4718 Jan 28 08:40	7°Ω29'36	0°-1'-30	behind sun begin	4724 Jan 19 07:28	28°Ϡ04'21	
asc. node	4718 Feb 09 01:36	5°Ω55'49		behind sun end	4724 Jan 19 19:47	28°Ϡ11'13	
direct	4718 Mar 28 03:04	2°Ω30'41			4724 Jan 27 21:36	0°≈	
	4718 Jul 03 16:35	15°Ω		morning rise	4724 Feb 01 05:31	0°≈58'08	
evening set	4718 Aug 01 15:44	21°Ω22'01			4724 Apr 13 23:55	15°≈	
				desc. node	4724 May 30 14:37	18°≈45'30	

retrograde	4724 Jun 03 20:31	18° 47 '12		opposition	4730 Feb 01 23:50	12° 17 '56	0°05'24
	4724 Jul 26 02:59	15° 48 '		min. Earth dist.	4730 Jan 31 12:25	12° 17 '58	4.12109 AU
opposition	4724 Aug 03 17:46	13° 54 '24	0°-7'-52	direct	4730 Apr 01 20:22	7° 18 '41	
min. Earth dist.	4724 Aug 05 05:35	13° 54 '56	4.24974 AU		4730 Jun 14 11:20	15° 18 '	
direct	4724 Oct 04 08:19	8° 56 '11		evening set	4730 Aug 06 11:43	26° 06 '02	
	4724 Dec 08 22:15	15° 57 '					
evening set	4725 Feb 06 19:11	27° 23 '02		conjunction	4730 Aug 20 04:16	29° 11 '44	0°20'21
max. Earth dist.	4725 Feb 17 16:51	29° 54 '28	6.17208 AU	minimum elong	4730 Aug 20 04:14	29° 11 '43	0°20'21
	4725 Feb 18 02:23	0° 58 '		max. Earth dist.	4730 Aug 22 03:30	29° 13 '28	6.19988 AU
					4730 Aug 23 17:33	0° 17 '	
conjunction	4725 Feb 19 12:41	0° 19 '56	0°-21'-34	morning rise	4730 Sep 02 20:41	2° 17 '01	
minimum elong	4725 Feb 19 12:40	0° 19 '55	0°21'35	retrograde	4731 Jan 06 03:12	20° 36 '41	
morning rise	4725 Mar 04 06:23	3° 17 '12		opposition	4731 Mar 06 23:46	15° 34 '52	0°51'15
retrograde	4725 Jul 09 10:19	22° 15 '06		min. Earth dist.	4731 Mar 06 00:28	15° 42 '40	4.27663 AU
opposition	4725 Sep 07 22:44	17° 20 '09	0°-54'-7	direct	4731 May 06 05:10	10° 33 '30	
min. Earth dist.	4725 Sep 08 22:53	17° 12 '19	4.09460 AU	evening set	4731 Sep 09 19:00	28° 38 '50	
direct	4725 Nov 07 05:21	12° 24 '17			4731 Sep 15 23:27	0° 46 '	
	4726 Mar 05 23:49	0° 47 '					
evening set	4726 Mar 12 17:24	1° 35 '32		conjunction	4731 Sep 23 06:40	1° 36 '08	0°46'32
				minimum elong	4731 Sep 23 06:38	1° 36 '07	0°46'32
conjunction	4726 Mar 25 14:31	4° 40 '11	0°-48'-8	max. Earth dist.	4731 Sep 24 06:26	1° 49 '11	6.34731 AU
minimum elong	4726 Mar 25 14:29	4° 40 '11	0°48'09	morning rise	4731 Oct 06 16:36	4° 32 '22	
max. Earth dist.	4726 Mar 24 18:49	4° 28 '24	6.02630 AU	retrograde	4732 Feb 05 22:01	21° 52 '42	
morning rise	4726 Apr 07 13:11	7° 45 '57		opposition	4732 Apr 06 04:22	16° 54 '27	1°18'55
retrograde	4726 Aug 16 02:52	27° 53 '19		min. Earth dist.	4732 Apr 05 21:42	16° 56 '38	4.40520 AU
opposition	4726 Oct 15 04:33	22° 55 '04	-1°-23'-46	direct	4732 Jun 06 15:42	11° 52 '07	
min. Earth dist.	4726 Oct 15 06:21	22° 54 '28	3.97241 AU	evening set	4732 Oct 11 02:34	29° 26 '59	
direct	4726 Dec 12 23:40	18° 01 '00			4732 Oct 13 16:11	0° 17 '	
	4727 Mar 15 10:51	0° 46 '					
evening set	4727 Apr 17 20:05	7° 46 '32		conjunction	4732 Oct 24 07:31	2° 17 '34	0°58'13
				minimum elong	4732 Oct 24 07:31	2° 17 '33	0°58'13
conjunction	4727 Apr 30 23:46	10° 58 '12	0°-57'-44	max. Earth dist.	4732 Oct 24 01:52	2° 14 '30	6.44741 AU
minimum elong	4727 Apr 30 23:46	10° 58 '12	0°57'46	morning rise	4732 Nov 06 10:00	5° 06 '51	
max. Earth dist.	4727 May 01 13:23	11° 06 '29	5.93914 AU		4732 Dec 26 05:05	15° 06 '	
morning rise	4727 May 14 06:21	14° 11 '29		retrograde	4733 Mar 06 21:25	21° 52 '53	
	4727 May 17 14:54	15° 11 '		opposition	4733 May 06 11:28	16° 57 '57	1°24'00
	4727 Jul 28 04:30	0° 11 '		min. Earth dist.	4733 May 07 00:27	16° 53 '46	4.47151 AU
retrograde	4727 Sep 23 15:17	4° 57 '32			4733 May 22 02:37	15° 53 '	
min. Earth dist.	4727 Nov 21 10:43	0° 02 '43	3.93121 AU	direct	4733 Jul 07 22:08	11° 55 '41	
	4727 Nov 21 18:47	30° 08 '			4733 Aug 23 19:00	15° 53 '	
opposition	4727 Nov 22 08:00	29° 55 '33	-1°-21'-9	evening set	4733 Nov 11 00:13	29° 17 '12	
direct	4728 Jan 19 06:51	25° 01 '17			4733 Nov 14 08:08	0° 47 '	
	4728 Mar 15 08:02	0° 11 '					
evening set	4728 May 24 10:28	14° 53 '52		conjunction	4733 Nov 23 23:10	2° 04 '23	0°53'54
				minimum elong	4733 Nov 23 23:11	2° 04 '23	0°53'54
conjunction	4728 Jun 06 22:21	18° 09 '00	0°-44'-32	max. Earth dist.	4733 Nov 22 15:25	1° 47 '16	6.47475 AU
minimum elong	4728 Jun 06 22:23	18° 09 '01	0°44'34	morning rise	4733 Dec 06 19:38	4° 50 '24	
max. Earth dist.	4728 Jun 08 20:01	18° 36 '33	5.94775 AU	retrograde	4734 Apr 05 23:40	21° 31 '12	
morning rise	4728 Jun 20 12:53	21° 25 '27		opposition	4734 Jun 05 20:14	16° 38 '23	1°07'06
	4728 Jul 27 23:22	0° 25 '		min. Earth dist.	4734 Jun 07 00:46	16° 29 '16	4.45921 AU
retrograde	4728 Oct 30 05:15	11° 56 '28		direct	4734 Aug 07 14:58	11° 36 '51	
min. Earth dist.	4728 Dec 27 06:16	7° 03 '41	3.98909 AU	evening set	4734 Dec 11 09:00	29° 04 '27	
opposition	4728 Dec 28 16:35	6° 52 '00	0°-45'-41		4734 Dec 15 15:07	0° 26 '	
direct	4729 Feb 24 16:47	1° 55 '34		max. Earth dist.	4734 Dec 22 04:43	1° 26 '08	6.42327 AU
evening set	4729 Jul 01 03:02	21° 24 '25					
				conjunction	4734 Dec 24 03:57	1° 52 '00	0°35'13
conjunction	4729 Jul 14 20:02	24° 37 '12	0°-14'-3	minimum elong	4734 Dec 24 03:59	1° 52 '01	0°35'13
minimum elong	4729 Jul 14 20:03	24° 37 '12	0°14'05	morning rise	4735 Jan 05 20:41	4° 38 '42	
behind sun begin	4729 Jul 14 16:06	24° 34 '54		retrograde	4735 May 07 05:58	21° 43 '50	
behind sun end	4729 Jul 14 23:59	24° 39 '30		opposition	4735 Jul 07 05:23	16° 51 '42	0°31'51
max. Earth dist.	4729 Jul 17 05:45	25° 11 '03	6.04863 AU	min. Earth dist.	4735 Jul 08 18:36	16° 39 '51	4.37125 AU
morning rise	4729 Jul 28 14:43	27° 50 '31		direct	4735 Sep 07 16:14	11° 51 '38	
	4729 Aug 06 23:07	0° 18 '		evening set	4736 Jan 11 04:19	29° 44 '17	
	4729 Oct 26 13:58	15° 18 '			4736 Jan 12 08:27	0° 47 '	
retrograde	4729 Dec 04 09:01	17° 22 '16		max. Earth dist.	4736 Jan 21 16:19	2° 05 '47	6.30498 AU
asc. node	4729 Dec 22 08:51	16° 50 '00					
	4730 Jan 12 00:15	15° 48 '		conjunction	4736 Jan 23 21:16	2° 35 '38	0°06'19

minimum elong	4736 Jan 23 21:17	2°≈35'38	0°06'20	max. Earth dist.	4741 Jul 22 10:31	0°Ω16'44	6.06743 AU
behind sun begin	4736 Jan 23 13:46	2°≈31'25		morning rise	4741 Aug 02 19:51	2°Ω55'41	
behind sun end	4736 Jan 24 04:49	2°≈39'51			4741 Sep 28 17:53	15°Ω	
morning rise	4736 Feb 05 13:21	5°≈26'45		asc. node	4741 Nov 01 02:48	20°Ω01'00	
	4736 Mar 21 23:05	15°≈		retrograde	4741 Dec 09 03:13	22°Ω17'31	
desc. node	4736 Apr 09 20:07	18°≈16'49		min. Earth dist.	4742 Feb 05 08:10	17°Ω24'56	4.14314 AU
retrograde	4736 Jun 08 15:23	23°≈23'52		opposition	4742 Feb 06 18:08	17°Ω13'25	0°12'32
opposition	4736 Aug 08 11:01	18°≈30'49	0°-14'-35		4742 Feb 23 18:56	15°RΩ	
min. Earth dist.	4736 Aug 09 22:45	18°≈19'21	4.22921 AU	direct	4742 Apr 06 20:00	12°Ω13'50	
	4736 Sep 07 23:07	15°R≈			4742 May 19 01:00	15°Ω	
direct	4736 Oct 08 22:53	13°≈32'50			4742 Aug 07 08:17	0°η	
	4736 Nov 08 17:23	15°≈		evening set	4742 Aug 11 10:06	0°η54'37	
	4737 Feb 02 05:37	0°X					
evening set	4737 Feb 11 08:14	2°X05'28		conjunction	4742 Aug 25 02:13	3°η59'05	0°24'42
max. Earth dist.	4737 Feb 22 08:37	4°X39'09	6.15073 AU	minimum elong	4742 Aug 25 02:12	3°η59'04	0°24'42
				max. Earth dist.	4742 Aug 27 00:33	4°η25'09	6.22348 AU
conjunction	4737 Feb 24 02:09	5°X03'23	0°-25'-50	morning rise	4742 Sep 07 17:48	7°η02'59	
minimum elong	4737 Feb 24 02:08	5°X03'22	0°25'51	retrograde	4743 Jan 10 11:28	25°η12'25	
morning rise	4737 Mar 08 20:16	8°X01'45		min. Earth dist.	4743 Mar 10 11:54	20°η18'33	4.29978 AU
retrograde	4737 Jul 14 11:57	27°X09'42		opposition	4743 Mar 11 10:19	20°η11'04	0°56'19
opposition	4737 Sep 12 23:17	22°X14'22	0°-59'-38	direct	4743 May 10 19:29	15°η09'32	
min. Earth dist.	4737 Sep 13 20:40	22°X07'24	4.07427 AU		4743 Aug 30 17:43	0°Ω	
direct	4737 Nov 11 23:57	17°X18'48		evening set	4743 Sep 14 09:22	3°Ω08'41	
	4738 Feb 17 00:45	0°Y					
evening set	4738 Mar 17 14:07	6°Y36'03		conjunction	4743 Sep 27 19:57	6°Ω04'42	0°49'03
				minimum elong	4743 Sep 27 19:55	6°Ω04'42	0°49'04
conjunction	4738 Mar 30 11:51	9°Y41'48	0°-50'-41	max. Earth dist.	4743 Sep 28 14:54	6°Ω15'04	6.36816 AU
minimum elong	4738 Mar 30 11:49	9°Y41'47	0°50'41	morning rise	4743 Oct 11 04:52	8°Ω59'40	
max. Earth dist.	4738 Mar 29 19:22	9°Y31'53	6.00877 AU	retrograde	4744 Feb 10 02:59	26°Ω12'29	
morning rise	4738 Apr 12 11:33	12°Y48'46		opposition	4744 Apr 10 09:44	21°Ω14'44	1°20'54
	4738 Jul 07 15:20	0°Z		min. Earth dist.	4744 Apr 10 06:36	21°Ω15'46	4.42225 AU
retrograde	4738 Aug 21 09:58	3°Z04'31		direct	4744 Jun 11 02:21	16°Ω12'21	
	4738 Oct 05 16:29	30°R'Y			4744 Sep 27 17:39	0°M	
opposition	4738 Oct 20 10:28	28°Y05'43	-1°-25'-32	evening set	4744 Oct 15 09:54	3°M43'01	
min. Earth dist.	4738 Oct 20 09:03	28°Y06'11	3.95952 AU				
direct	4738 Dec 18 01:55	23°Y11'43		conjunction	4744 Oct 28 13:58	6°M32'46	0°58'30
	4739 Feb 22 22:01	0°Z		minimum elong	4744 Oct 28 13:58	6°M32'46	0°58'30
evening set	4739 Apr 22 23:36	13°Z00'54		max. Earth dist.	4744 Oct 28 04:29	6°M27'40	6.45923 AU
	4739 May 01 03:53	15°Z		morning rise	4744 Nov 10 15:25	9°M21'14	
					4744 Dec 07 20:00	15°M	
conjunction	4739 May 06 04:36	16°Z13'29	0°-57'-15	retrograde	4745 Mar 10 22:09	26°M03'47	
minimum elong	4739 May 06 04:37	16°Z13'30	0°57'15	opposition	4745 May 10 14:20	21°M09'13	1°22'50
max. Earth dist.	4739 May 07 00:18	16°Z25'29	5.93233 AU	min. Earth dist.	4745 May 11 05:22	21°M04'21	4.47750 AU
morning rise	4739 May 19 12:16	19°Z27'37		direct	4745 Jul 12 02:26	16°M06'58	
	4739 Jul 04 19:25	0°II			4745 Oct 29 17:54	0°Z	
retrograde	4739 Sep 29 00:35	10°II15'49		evening set	4745 Nov 15 03:41	3°Z27'20	
opposition	4739 Nov 27 14:41	5°II13'26	-1°-17'-54	max. Earth dist.	4745 Nov 26 15:46	5°Z55'48	6.47439 AU
min. Earth dist.	4739 Nov 26 15:30	5°II21'16	3.93145 AU				
direct	4740 Jan 24 12:21	0°II19'02		conjunction	4745 Nov 28 01:58	6°Z14'15	0°52'05
evening set	4740 May 29 17:19	20°II10'53		minimum elong	4745 Nov 28 01:59	6°Z14'16	0°52'06
				morning rise	4745 Dec 10 21:39	9°Z00'01	
conjunction	4740 Jun 12 06:07	23°II26'08	0°-41'-1	retrograde	4746 Apr 10 03:05	25°Z41'54	
minimum elong	4740 Jun 12 06:09	23°II26'10	0°41'02	opposition	4746 Jun 10 00:28	20°Z49'19	1°03'12
max. Earth dist.	4740 Jun 14 06:23	23°II55'11	5.95494 AU	min. Earth dist.	4746 Jun 11 07:29	20°Z39'25	4.45237 AU
morning rise	4740 Jun 25 21:45	26°II42'43		direct	4746 Aug 11 19:42	15°Z47'55	
	4740 Jul 09 20:14	0°Ω			4746 Nov 30 03:21	0°Z	
retrograde	4740 Nov 04 06:11	17°Ω08'18		evening set	4746 Dec 15 12:07	3°Z17'44	
min. Earth dist.	4741 Jan 01 06:02	12°Ω16'08	4.00262 AU	max. Earth dist.	4746 Dec 26 03:40	5°Z37'39	6.41019 AU
opposition	4741 Jan 02 18:28	12°Ω03'43	0°-38'-55				
direct	4741 Mar 01 19:09	7°Ω06'59		conjunction	4746 Dec 28 06:34	6°Z05'37	0°31'44
evening set	4741 Jul 06 07:53	26°Ω31'13		minimum elong	4746 Dec 28 06:35	6°Z05'37	0°31'44
				morning rise	4747 Jan 09 23:13	8°Z52'45	
conjunction	4741 Jul 20 01:09	29°Ω43'15	0°-9'-9	retrograde	4747 May 11 16:12	26°Z03'49	
minimum elong	4741 Jul 20 01:09	29°Ω43'15	0°09'10	opposition	4747 Jul 11 14:47	21°Z11'37	0°25'57
behind sun begin	4741 Jul 19 18:06	29°Ω39'09		min. Earth dist.	4747 Jul 13 05:05	20°Z59'24	4.35250 AU
behind sun end	4741 Jul 20 08:12	29°Ω47'21		direct	4747 Sep 11 23:22	16°Z11'42	
	4741 Jul 21 05:51	0°Ω			4747 Dec 27 12:50	0°≈	

evening set	4748 Jan 15 10:57	4°≈09'56		conjunction	4753 Jul 25 06:57	4°Ω50'47	0°-4'-8
max. Earth dist.	4748 Jan 25 23:56	6°≈32'40	6.28198 AU	minimum elong	4753 Jul 25 06:57	4°Ω50'47	0°04'10
				behind sun begin	4753 Jul 24 22:41	4°Ω46'00	
conjunction	4748 Jan 28 04:07	7°≈02'13	0°01'55	behind sun end	4753 Jul 25 15:13	4°Ω55'33	
minimum elong	4748 Jan 28 04:06	7°≈02'13	0°01'55	max. Earth dist.	4753 Jul 27 17:31	5°Ω24'47	6.08985 AU
behind sun begin	4748 Jan 27 20:07	6°≈57'43		morning rise	4753 Aug 08 01:26	8°Ω02'04	
behind sun end	4748 Jan 28 12:04	7°≈06'42			4753 Sep 08 09:41	15°Ω	
morning rise	4748 Feb 09 20:09	9°≈54'18		asc. node	4753 Sep 10 00:20	15°Ω20'20	
desc. node	4748 Feb 19 22:15	12°≈09'40		retrograde	4753 Dec 13 20:02	27°Ω12'33	
	4748 Mar 03 22:59	15°≈		min. Earth dist.	4754 Feb 10 02:37	22°Ω20'04	4.16773 AU
retrograde	4748 Jun 13 09:46	28°≈01'33		opposition	4754 Feb 11 12:13	22°Ω08'42	0°19'36
opposition	4748 Aug 13 04:21	23°≈08'19	0°-21'-11	direct	4754 Apr 11 17:50	17°Ω08'45	
min. Earth dist.	4748 Aug 14 15:05	22°≈57'10	4.20352 AU		4754 Jul 21 02:16	0°♄	
direct	4748 Oct 13 10:43	18°≈10'40		evening set	4754 Aug 16 08:04	5°♄42'14	
	4749 Jan 16 09:06	0°♄					
evening set	4749 Feb 15 22:27	6°♄51'10		conjunction	4754 Aug 29 23:23	8°♄45'19	0°28'54
max. Earth dist.	4749 Feb 27 00:28	9°♄26'46	6.12441 AU	minimum elong	4754 Aug 29 23:21	8°♄45'18	0°28'53
				max. Earth dist.	4754 Aug 31 17:06	9°♄08'41	6.24793 AU
conjunction	4749 Feb 28 16:38	9°♄50'20	0°-29'-56	morning rise	4754 Sep 12 14:15	11°♄47'47	
minimum elong	4749 Feb 28 16:37	9°♄50'19	0°29'57	retrograde	4755 Jan 14 21:13	29°♄47'12	
morning rise	4749 Mar 13 11:32	12°♄50'07		opposition	4755 Mar 15 20:51	24°♄46'17	1°01'04
	4749 Jun 12 01:51	0°♄		min. Earth dist.	4755 Mar 15 01:39	24°♄52'41	4.32207 AU
retrograde	4749 Jul 19 16:27	2°♄10'15		direct	4755 May 15 11:36	19°♄44'31	
	4749 Aug 26 12:59	30°♄			4755 Aug 13 03:45	0°♄	
opposition	4749 Sep 18 01:47	27°♄14'27	-1°-4'-46	evening set	4755 Sep 18 23:22	7°♄37'57	
min. Earth dist.	4749 Sep 18 20:21	27°♄08'23	4.04960 AU				
direct	4749 Nov 16 21:04	22°♄19'09		conjunction	4755 Oct 02 09:10	10°♄32'52	0°51'20
	4750 Jan 28 08:50	0°♄		minimum elong	4755 Oct 02 09:09	10°♄32'51	0°51'20
evening set	4750 Mar 22 13:21	11°♄44'05		max. Earth dist.	4755 Oct 03 01:12	10°♄41'36	6.38666 AU
				morning rise	4755 Oct 15 16:51	13°♄26'36	
conjunction	4750 Apr 04 12:12	14°♄51'12	0°-52'-51		4756 Jan 26 15:31	0°♄	
minimum elong	4750 Apr 04 12:10	14°♄51'11	0°52'53	retrograde	4756 Feb 14 06:20	0°♄32'56	
max. Earth dist.	4750 Apr 04 01:45	14°♄44'54	5.98823 AU		4756 Mar 03 20:03	30°♄	
morning rise	4750 Apr 17 12:51	17°♄59'35		opposition	4756 Apr 14 15:25	25°♄35'42	1°22'30
	4750 Jun 10 15:38	0°♄		min. Earth dist.	4756 Apr 14 14:16	25°♄36'04	4.43593 AU
retrograde	4750 Aug 26 22:14	8°♄24'35		direct	4756 Jun 15 10:30	20°♄33'18	
opposition	4750 Oct 25 19:38	3°♄25'17	-1°-26'-37		4756 Sep 10 05:40	0°♄	
min. Earth dist.	4750 Oct 25 15:09	3°♄26'47	3.94558 AU	evening set	4756 Oct 19 18:14	8°♄00'59	
	4750 Nov 23 09:04	30°♄					
direct	4750 Dec 23 07:22	28°♄31'24		conjunction	4756 Nov 01 21:16	10°♄50'03	0°58'31
	4751 Jan 22 00:04	0°♄		minimum elong	4756 Nov 01 21:16	10°♄50'03	0°58'31
	4751 Apr 14 01:19	15°♄		max. Earth dist.	4756 Nov 01 06:52	10°♄42'18	6.46711 AU
evening set	4751 Apr 28 06:40	18°♄24'20		morning rise	4756 Nov 14 21:53	13°♄37'52	
					4756 Nov 21 08:21	15°♄	
conjunction	4751 May 11 12:44	21°♄37'45	0°-56'-14		4757 Mar 01 03:34	0°♄	
minimum elong	4751 May 11 12:45	21°♄37'45	0°56'15	retrograde	4757 Mar 15 03:15	0°♄18'20	
max. Earth dist.	4751 May 12 12:52	21°♄52'27	5.92622 AU		4757 Mar 29 01:01	30°♄	
morning rise	4751 May 24 21:50	24°♄52'47		opposition	4757 May 14 19:20	25°♄24'10	1°21'17
	4751 Jun 15 12:19	0°♄		min. Earth dist.	4757 May 15 13:58	25°♄18'10	4.47923 AU
retrograde	4751 Oct 04 09:28	15°♄42'04		direct	4757 Jul 16 10:14	20°♄21'59	
opposition	4751 Dec 02 23:48	10°♄39'10	-1°-13'-53		4757 Oct 12 13:19	0°♄	
min. Earth dist.	4751 Dec 01 20:36	10°♄48'22	3.93413 AU	evening set	4757 Nov 19 09:04	7°♄42'26	
direct	4752 Jan 29 19:27	5°♄44'30		max. Earth dist.	4757 Nov 30 16:54	10°♄08'51	6.46974 AU
evening set	4752 Jun 04 02:54	25°♄34'20					
				conjunction	4757 Dec 02 06:44	10°♄29'17	0°49'58
conjunction	4752 Jun 17 16:38	28°♄49'30	0°-37'-5	minimum elong	4757 Dec 02 06:46	10°♄29'18	0°49'58
minimum elong	4752 Jun 17 16:40	28°♄49'31	0°37'07	morning rise	4757 Dec 15 01:54	13°♄15'02	
max. Earth dist.	4752 Jun 19 20:07	29°♄20'23	5.96598 AU	retrograde	4758 Apr 14 10:03	29°♄59'27	
	4752 Jun 22 14:11	0°♄		opposition	4758 Jun 14 08:03	25°♄07'00	0°58'53
morning rise	4752 Jul 01 08:59	2°♄05'50		min. Earth dist.	4758 Jun 15 16:12	24°♄56'44	4.44170 AU
retrograde	4752 Nov 09 09:07	22°♄23'53		direct	4758 Aug 16 01:52	20°♄05'44	
min. Earth dist.	4753 Jan 06 08:51	17°♄31'33	4.02029 AU		4758 Nov 13 00:05	0°♄	
opposition	4753 Jan 07 21:25	17°♄19'05	0°-31'-46	evening set	4758 Dec 19 18:28	7°♄38'51	
direct	4753 Mar 07 02:03	12°♄21'51		max. Earth dist.	4758 Dec 30 09:38	9°♄59'03	6.39430 AU
	4753 Jul 04 08:06	0°♄					
evening set	4753 Jul 11 13:27	1°♄39'43		conjunction	4759 Jan 01 12:42	10°♄27'13	0°27'58
				minimum elong	4759 Jan 01 12:43	10°♄27'14	0°27'58

morning rise	4759 Jan 14 05:00	13° $\overline{3}$ 14'53		morning rise	4764 Jul 06 17:13	7° $\overline{6}$ 21'14	
	4759 Apr 27 10:59	0° \approx		retrograde	4764 Nov 14 07:54	27° $\overline{6}$ 29'57	
retrograde	4759 May 16 06:20	0° \approx 32'47		min. Earth dist.	4765 Jan 11 07:10	22° $\overline{6}$ 37'50	4.04152 AU
	4759 Jun 04 01:31	30° \overline{R} 3		opposition	4765 Jan 12 20:24	22° $\overline{6}$ 25'10	0°-24'-39
opposition	4759 Jul 16 04:17	25° $\overline{3}$ 40'36	0°19'39	direct	4765 Mar 12 03:31	17° $\overline{6}$ 27'34	
min. Earth dist.	4759 Jul 17 19:17	25° $\overline{3}$ 28'10	4.33225 AU		4765 Jun 16 21:39	0° $\overline{8}$	
direct	4759 Sep 16 09:55	20° $\overline{3}$ 41'01		evening set	4765 Jul 16 15:04	6° $\overline{8}$ 38'22	
	4759 Dec 09 18:26	0° \approx		asc. node	4765 Jul 21 09:20	7° $\overline{8}$ 44'08	
desc. node	4759 Dec 30 07:54	4° \approx 12'33					
evening set	4760 Jan 19 21:50	8° \approx 45'12		conjunction	4765 Jul 30 08:21	9° $\overline{8}$ 48'16	0°00'48
max. Earth dist.	4760 Jan 30 10:07	11° \approx 08'21	6.25894 AU	minimum elong	4765 Jul 30 08:21	9° $\overline{8}$ 48'16	0°00'49
				behind sun begin	4765 Jul 29 23:57	9° $\overline{8}$ 43'27	
conjunction	4760 Feb 01 14:52	11° \approx 38'24	0°-2'-46	behind sun end	4765 Jul 30 16:44	9° $\overline{8}$ 53'05	
minimum elong	4760 Feb 01 14:52	11° \approx 38'24	0°02'47	max. Earth dist.	4765 Aug 01 16:00	10° $\overline{8}$ 20'24	6.11373 AU
behind sun begin	4760 Feb 01 06:54	11° \approx 33'53		morning rise	4765 Aug 13 02:43	12° $\overline{8}$ 58'21	
behind sun end	4760 Feb 01 22:49	11° \approx 42'54			4765 Aug 22 00:52	15° $\overline{8}$	
morning rise	4760 Feb 14 07:21	14° \approx 31'33			4765 Nov 13 02:11	0° $\overline{9}$	
	4760 Feb 16 09:38	15° \approx		retrograde	4765 Dec 18 08:41	1° $\overline{9}$ 57'44	
	4760 May 05 23:26	0° \overline{H}			4766 Jan 22 09:06	30° \overline{R} 8	
retrograde	4760 Jun 18 09:21	2° \overline{H} 49'08		min. Earth dist.	4766 Feb 14 18:35	27° $\overline{8}$ 04'51	4.19185 AU
	4760 Aug 01 10:03	30° \overline{R} 8		opposition	4766 Feb 16 02:08	26° $\overline{8}$ 54'11	0°26'15
opposition	4760 Aug 18 02:14	27° \approx 55'39	0°-27'-58	direct	4766 Apr 16 12:32	21° $\overline{8}$ 53'53	
min. Earth dist.	4760 Aug 19 11:00	27° \approx 45'06	4.17931 AU		4766 Jul 02 04:23	0° $\overline{9}$	
direct	4760 Oct 18 03:30	22° \approx 58'21		evening set	4766 Aug 21 01:55	10° $\overline{9}$ 20'45	
	4760 Dec 27 12:36	0° \overline{H}					
evening set	4761 Feb 20 16:20	11° \overline{H} 46'05		conjunction	4766 Sep 03 16:46	13° $\overline{9}$ 22'37	0°32'47
max. Earth dist.	4761 Mar 03 23:46	14° \overline{H} 25'36	6.10141 AU	minimum elong	4766 Sep 03 16:44	13° $\overline{9}$ 22'36	0°32'47
				max. Earth dist.	4766 Sep 05 07:57	13° $\overline{9}$ 44'27	6.27045 AU
conjunction	4761 Mar 05 11:09	14° \overline{H} 46'28	0°-34'00	morning rise	4766 Sep 17 06:35	16° $\overline{9}$ 23'43	
minimum elong	4761 Mar 05 11:07	14° \overline{H} 46'27	0°34'00		4766 Nov 26 14:28	0° $\overline{9}$	
morning rise	4761 Mar 18 06:33	17° \overline{H} 47'31		retrograde	4767 Jan 19 03:04	4° $\overline{9}$ 14'14	
	4761 May 14 02:04	0° \overline{Y}			4767 Mar 14 08:42	30° \overline{R} 9	
retrograde	4761 Jul 25 00:43	7° \overline{Y} 18'29		min. Earth dist.	4767 Mar 19 11:05	29° $\overline{9}$ 19'29	4.34130 AU
opposition	4761 Sep 23 07:49	2° \overline{Y} 22'20	-1°-9'-36	opposition	4767 Mar 20 03:58	29° $\overline{9}$ 13'53	1°05'19
min. Earth dist.	4761 Sep 23 23:37	2° \overline{Y} 17'10	4.03019 AU	direct	4767 May 19 22:24	24° $\overline{9}$ 12'00	
	4761 Oct 12 06:09	30° \overline{R} 8			4767 Jul 23 20:41	0° $\overline{9}$	
direct	4761 Nov 21 21:58	27° \overline{H} 27'28		evening set	4767 Sep 23 10:25	12° $\overline{9}$ 01'00	
	4761 Dec 31 20:24	0° \overline{Y}					
evening set	4762 Mar 27 15:25	16° \overline{Y} 57'56		conjunction	4767 Oct 06 19:10	14° $\overline{9}$ 54'56	0°53'16
				minimum elong	4767 Oct 06 19:09	14° $\overline{9}$ 54'56	0°53'16
conjunction	4762 Apr 09 14:59	20° \overline{Y} 06'04	0°-54'-42	max. Earth dist.	4767 Oct 07 05:09	15° $\overline{9}$ 00'22	6.40108 AU
minimum elong	4762 Apr 09 14:58	20° \overline{Y} 06'04	0°54'43	morning rise	4767 Oct 20 02:02	17° $\overline{9}$ 47'45	
max. Earth dist.	4762 Apr 09 08:32	20° \overline{Y} 02'10	5.97432 AU		4767 Dec 22 13:19	0° \overline{M}	
morning rise	4762 Apr 22 16:53	23° \overline{Y} 15'36		retrograde	4768 Feb 18 10:22	4° \overline{M} 49'17	
	4762 May 21 13:39	0° $\overline{8}$			4768 Apr 17 20:38	30° \overline{R} 9	
retrograde	4762 Sep 01 08:17	13° $\overline{8}$ 46'50		opposition	4768 Apr 18 19:32	29° $\overline{9}$ 52'31	1°23'41
opposition	4762 Oct 31 05:18	8° $\overline{8}$ 47'01	-1°-26'-59	min. Earth dist.	4768 Apr 18 22:09	29° $\overline{9}$ 51'40	4.44492 AU
min. Earth dist.	4762 Oct 30 20:01	8° $\overline{8}$ 50'07	3.93914 AU	direct	4768 Jun 19 18:16	24° $\overline{9}$ 50'04	
direct	4762 Dec 28 13:04	3° $\overline{8}$ 53'12			4768 Aug 20 13:28	0° \overline{M}	
	4763 Mar 26 15:22	15° $\overline{8}$		evening set	4768 Oct 24 00:39	12° \overline{M} 16'14	
evening set	4763 May 03 13:55	23° $\overline{8}$ 47'05		max. Earth dist.	4768 Nov 05 09:55	14° \overline{M} 55'41	6.47006 AU
					4768 Nov 05 17:56	15° \overline{M}	
conjunction	4763 May 16 21:09	27° $\overline{8}$ 00'58	0°-54'-48	conjunction	4768 Nov 06 03:03	15° \overline{M} 04'55	0°58'13
minimum elong	4763 May 16 21:10	27° $\overline{8}$ 00'59	0°54'50	minimum elong	4768 Nov 06 03:04	15° \overline{M} 04'55	0°58'14
max. Earth dist.	4763 May 18 02:53	27° $\overline{8}$ 19'03	5.92791 AU	morning rise	4768 Nov 19 02:43	17° \overline{M} 52'18	
	4763 May 29 04:05	0° \overline{II}			4769 Jan 22 00:28	0° \overline{J}	
morning rise	4763 May 30 07:16	0° \overline{II} 16'24		retrograde	4769 Mar 19 06:12	4° \overline{J} 32'19	
retrograde	4763 Oct 09 16:59	21° \overline{II} 03'27			4769 May 16 04:40	30° \overline{R} 9	
min. Earth dist.	4763 Dec 07 02:01	16° \overline{II} 09'52	3.94371 AU	opposition	4769 May 18 23:43	29° \overline{M} 38'28	1°19'22
opposition	4763 Dec 08 06:47	16° \overline{II} 00'07	-1°-9'-20	min. Earth dist.	4769 May 19 19:45	29° \overline{M} 32'01	4.47632 AU
direct	4764 Feb 04 03:24	11° \overline{II} 05'11		direct	4769 Jul 20 14:35	24° \overline{M} 36'23	
	4764 Jun 05 20:16	0° $\overline{6}$			4769 Sep 22 04:47	0° \overline{J}	
evening set	4764 Jun 09 09:44	0° $\overline{6}$ 50'41		evening set	4769 Nov 23 14:26	11° \overline{J} 58'18	
				max. Earth dist.	4769 Dec 04 19:01	14° \overline{J} 23'20	6.46120 AU
conjunction	4764 Jun 23 00:18	4° $\overline{6}$ 05'26	0°-32'-59	conjunction	4769 Dec 06 11:28	14° \overline{J} 45'15	0°47'37
minimum elong	4764 Jun 23 00:20	4° $\overline{6}$ 05'27	0°33'01				
max. Earth dist.	4764 Jun 25 07:20	4° $\overline{6}$ 38'18	5.98236 AU				

minimum elong	4769 Dec 06 11:29	14°♂45'16	0°47'37	conjunction	4775 May 22 03:15	2°♂17'27	0°-52'-56
morning rise	4769 Dec 19 06:10	17°♂31'10		minimum elong	4775 May 22 03:16	2°♂17'28	0°52'58
	4770 Feb 22 22:26	0°♂		max. Earth dist.	4775 May 23 13:40	2°♂38'22	5.93118 AU
retrograde	4770 Apr 18 19:27	4°♂19'15		morning rise	4775 Jun 04 14:28	5°♂33'14	
	4770 Jun 14 08:29	30°♂19'15		retrograde	4775 Oct 14 21:28	26°♂17'17	
opposition	4770 Jun 18 16:27	29°♂26'56	0°54'15	min. Earth dist.	4775 Dec 12 03:46	21°♂24'07	3.95345 AU
min. Earth dist.	4770 Jun 20 02:47	29°♂15'59	4.42809 AU	opposition	4775 Dec 13 10:40	21°♂13'38	-1°-4'-19
direct	4770 Aug 20 10:00	24°♂25'53		direct	4776 Feb 09 07:03	16°♂18'25	
	4770 Oct 23 15:08	0°♂			4776 May 19 15:56	0°♂	
evening set	4770 Dec 24 01:33	12°♂02'58		evening set	4776 Jun 14 14:33	6°♂00'00	
max. Earth dist.	4771 Jan 03 14:47	14°♂22'42	6.37662 AU				
				conjunction	4776 Jun 28 05:40	9°♂14'20	0°-28'-42
conjunction	4771 Jan 05 19:32	14°♂51'55	0°24'01	minimum elong	4776 Jun 28 05:41	9°♂14'21	0°28'44
minimum elong	4771 Jan 05 19:33	14°♂51'56	0°24'02	max. Earth dist.	4776 Jun 30 12:31	9°♂46'57	5.99740 AU
morning rise	4771 Jan 18 11:49	17°♂40'16		morning rise	4776 Jul 11 23:14	12°♂29'39	
	4771 Mar 22 02:43	0°♂			4776 Oct 10 07:58	0°♂	
retrograde	4771 May 20 21:31	5°♂05'32		retrograde	4776 Nov 19 03:28	2°♂29'52	
opposition	4771 Jul 20 19:17	0°♂13'12	0°13'12		4776 Dec 28 19:13	30°♂♂	
min. Earth dist.	4771 Jul 22 09:07	0°♂01'07	4.31167 AU	min. Earth dist.	4777 Jan 16 03:59	27°♂37'40	4.06007 AU
	4771 Jul 22 12:35	30°♂♂		opposition	4777 Jan 17 16:56	27°♂25'05	0°-17'-28
direct	4771 Sep 20 20:44	25°♂13'53		direct	4777 Mar 17 03:18	22°♂27'02	
desc. node	4771 Nov 08 22:55	28°♂42'29			4777 May 28 05:39	0°♂	
	4771 Nov 17 23:15	0°♂		asc. node	4777 May 31 19:40	0°♂40'11	
evening set	4772 Jan 24 09:33	13°♂23'46		evening set	4777 Jul 21 15:09	11°♂32'10	
	4772 Jan 31 10:38	15°♂					
max. Earth dist.	4772 Feb 04 01:11	15°♂49'29	6.23720 AU	conjunction	4777 Aug 04 08:35	14°♂41'10	0°05'39
				minimum elong	4777 Aug 04 08:34	14°♂41'10	0°05'39
conjunction	4772 Feb 06 02:46	16°♂17'53	0°-7'-22	behind sun begin	4777 Aug 04 00:33	14°♂36'35	
minimum elong	4772 Feb 06 02:45	16°♂17'52	0°07'23	behind sun end	4777 Aug 04 16:35	14°♂45'45	
behind sun begin	4772 Feb 05 19:26	16°♂13'42			4777 Aug 05 17:21	15°♂	
behind sun end	4772 Feb 06 10:03	16°♂22'02		max. Earth dist.	4777 Aug 06 15:34	15°♂12'46	6.13428 AU
morning rise	4772 Feb 18 19:19	19°♂11'58		morning rise	4777 Aug 18 02:29	17°♂50'07	
	4772 Apr 09 23:58	0°♂			4777 Oct 15 17:44	0°♂	
retrograde	4772 Jun 23 09:33	7°♂39'12		retrograde	4777 Dec 22 21:51	6°♂39'53	
opposition	4772 Aug 23 01:05	2°♂45'24	0°-34'-35	min. Earth dist.	4778 Feb 19 09:48	1°♂46'43	4.21230 AU
min. Earth dist.	4772 Aug 24 08:29	2°♂35'17	4.15798 AU	opposition	4778 Feb 20 15:22	1°♂36'45	0°32'40
	4772 Sep 14 17:33	30°♂♂			4778 Mar 04 19:42	30°♂♂	
direct	4772 Oct 22 22:19	27°♂48'28		direct	4778 Apr 21 05:58	26°♂36'13	
	4772 Nov 29 15:01	0°♂			4778 Jun 07 19:30	0°♂	
evening set	4773 Feb 25 10:49	16°♂42'02		evening set	4778 Aug 25 19:38	14°♂57'48	
max. Earth dist.	4773 Mar 08 21:02	19°♂23'54	6.08223 AU				
				conjunction	4778 Sep 08 09:41	17°♂58'34	0°36'27
conjunction	4773 Mar 10 05:58	19°♂43'24	0°-37'-48	minimum elong	4778 Sep 08 09:39	17°♂58'33	0°36'27
minimum elong	4773 Mar 10 05:56	19°♂43'23	0°37'49	max. Earth dist.	4778 Sep 09 20:22	18°♂17'50	6.28906 AU
morning rise	4773 Mar 23 02:11	22°♂45'36		morning rise	4778 Sep 21 22:49	20°♂58'34	
	4773 Apr 23 21:58	0°♂			4778 Nov 04 09:58	0°♂	
retrograde	4773 Jul 30 05:49	12°♂25'34		retrograde	4779 Jan 23 09:31	8°♂41'43	
opposition	4773 Sep 28 12:52	7°♂28'53	-1°-13'-51	opposition	4779 Mar 24 11:48	3°♂41'51	1°09'12
min. Earth dist.	4773 Sep 29 00:25	7°♂25'06	4.01502 AU	min. Earth dist.	4779 Mar 23 21:32	3°♂46'35	4.35684 AU
direct	4773 Nov 26 22:04	2°♂34'12			4779 Apr 25 00:55	30°♂♂	
evening set	4774 Apr 01 16:24	22°♂08'34		direct	4779 May 24 09:59	28°♂39'51	
					4779 Jun 23 05:06	0°♂	
conjunction	4774 Apr 14 16:56	25°♂17'35	0°-56'-5	evening set	4779 Sep 27 22:14	16°♂25'33	
minimum elong	4774 Apr 14 16:55	25°♂17'34	0°56'06				
max. Earth dist.	4774 Apr 14 16:24	25°♂17'16	5.96449 AU	conjunction	4779 Oct 11 06:16	19°♂18'43	0°54'54
morning rise	4774 Apr 27 19:44	28°♂28'00		minimum elong	4779 Oct 11 06:14	19°♂18'42	0°54'54
	4774 May 04 05:18	0°♂		max. Earth dist.	4779 Oct 11 13:32	19°♂22'40	6.41256 AU
	4774 Jul 16 23:08	15°♂		morning rise	4779 Oct 24 11:57	22°♂10'39	
retrograde	4774 Sep 06 17:24	19°♂03'40			4779 Dec 01 15:46	0°♂	
	4774 Oct 29 10:06	15°♂♂		retrograde	4780 Feb 22 14:39	9°♂08'19	
opposition	4774 Nov 05 12:46	14°♂03'16	-1°-26'-37	opposition	4780 Apr 23 00:59	4°♂12'05	1°24'24
min. Earth dist.	4774 Nov 05 01:13	14°♂07'08	3.93575 AU	min. Earth dist.	4780 Apr 23 05:38	4°♂10'34	4.45184 AU
direct	4775 Jan 02 18:53	9°♂09'23			4780 May 31 13:28	30°♂♂	
	4775 Mar 04 23:54	15°♂		direct	4780 Jun 24 02:13	29°♂09'46	
evening set	4775 May 08 18:54	29°♂03'13			4780 Jul 17 21:19	0°♂	
	4775 May 12 16:46	0°♂			4780 Oct 20 21:49	15°♂	
				evening set	4780 Oct 28 08:47	16°♂34'58	

conjunction	4780 Nov 10 10:14	19° \mathbb{M} 23'15	0°57'37	minimum elong	4786 Apr 19 14:51	0° \mathcal{B} 19'24	0°56'59
minimum elong	4780 Nov 10 10:15	19° \mathbb{M} 23'15	0°57'38	max. Earth dist.	4786 Apr 19 18:07	0° \mathcal{B} 21'23	5.95813 AU
max. Earth dist.	4780 Nov 09 12:27	19° \mathbb{M} 11'31	6.47200 AU	morning rise	4786 May 02 18:41	3° \mathcal{B} 30'34	
morning rise	4780 Nov 23 09:16	22° \mathbb{M} 10'19			4786 Jun 22 22:49	15° \mathcal{B}	
	4780 Dec 31 20:57	0° \mathcal{A}		retrograde	4786 Sep 11 19:53	24° \mathcal{B} 09'07	
retrograde	4781 Mar 23 13:10	8° \mathcal{A} 50'14		opposition	4786 Nov 10 14:46	19° \mathcal{B} 08'17	-1°-25'-33
opposition	4781 May 23 06:16	3° \mathcal{A} 56'44	1°17'00	min. Earth dist.	4786 Nov 10 00:16	19° \mathcal{B} 13'09	3.93448 AU
min. Earth dist.	4781 May 24 04:58	3° \mathcal{A} 49'26	4.47350 AU		4786 Dec 17 14:58	15° $\mathcal{R}\mathcal{B}$	
	4781 Jun 27 19:39	30° $\mathcal{R}\mathbb{M}$		direct	4787 Jan 07 17:25	14° \mathcal{B} 14'21	
direct	4781 Jul 24 22:49	28° \mathbb{M} 54'51			4787 Jan 28 21:00	15° \mathcal{B}	
	4781 Aug 21 06:24	0° \mathcal{A}			4787 Apr 26 10:33	0° \mathbb{I}	
evening set	4781 Nov 27 20:57	16° \mathcal{A} 17'57		evening set	4787 May 13 19:26	4° \mathbb{I} 07'51	
max. Earth dist.	4781 Dec 09 00:02	18° \mathcal{A} 42'27	6.45407 AU				
conjunction	4781 Dec 10 17:34	19° \mathcal{A} 05'00	0°44'59	conjunction	4787 May 27 04:40	7° \mathbb{I} 22'22	0°-50'-45
minimum elong	4781 Dec 10 17:36	19° \mathcal{A} 05'01	0°44'59	minimum elong	4787 May 27 04:42	7° \mathbb{I} 22'23	0°50'46
morning rise	4781 Dec 23 11:41	21° \mathcal{A} 51'01		max. Earth dist.	4787 May 28 16:36	7° \mathbb{I} 44'10	5.93497 AU
	4782 Feb 01 06:45	0° \mathcal{B}		morning rise	4787 Jun 09 17:00	10° \mathbb{I} 38'26	
retrograde	4782 Apr 23 03:59	8° \mathcal{B} 42'23		retrograde	4787 Sep 21 05:13	0° \mathcal{B}	
opposition	4782 Jun 23 02:24	3° \mathcal{B} 50'12	0°49'18		4787 Oct 19 19:57	1° \mathcal{B} 19'32	
min. Earth dist.	4782 Jun 24 12:21	3° \mathcal{B} 39'22	4.41733 AU	min. Earth dist.	4787 Nov 17 06:49	30° $\mathcal{R}\mathbb{I}$	
	4782 Jul 27 12:49	30° $\mathcal{R}\mathcal{A}$		opposition	4787 Dec 17 01:10	26° \mathbb{I} 26'29	3.96186 AU
direct	4782 Aug 24 17:31	28° \mathcal{A} 49'28		direct	4787 Dec 18 09:10	26° \mathbb{I} 15'36	0°-59'-4
	4782 Sep 22 01:53	0° \mathcal{B}			4788 Feb 14 06:36	21° \mathbb{I} 19'59	
evening set	4782 Dec 28 09:26	16° \mathcal{B} 29'24		evening set	4788 Apr 30 23:51	0° \mathcal{B}	
max. Earth dist.	4783 Jan 07 23:08	18° \mathcal{B} 49'53	6.36320 AU		4788 Jun 19 14:43	10° \mathcal{B} 58'40	
conjunction	4783 Jan 10 03:02	19° \mathcal{B} 18'45	0°19'58	conjunction	4788 Jul 03 06:41	14° \mathcal{B} 12'45	0°-24'-25
minimum elong	4783 Jan 10 03:03	19° \mathcal{B} 18'46	0°19'59	minimum elong	4788 Jul 03 06:42	14° \mathcal{B} 12'46	0°24'26
morning rise	4783 Jan 22 19:07	22° \mathcal{B} 07'33		max. Earth dist.	4788 Jul 05 15:13	14° \mathcal{B} 46'16	6.00980 AU
	4783 Mar 01 02:43	0° \approx		morning rise	4788 Jul 17 00:34	17° \mathcal{B} 27'39	
retrograde	4783 May 25 13:44	9° \approx 38'50		retrograde	4788 Sep 13 09:29	0° \mathcal{Q}	
opposition	4783 Jul 25 10:32	4° \approx 46'25	0°06'43	min. Earth dist.	4788 Nov 23 21:20	7° \mathcal{Q} 20'45	
min. Earth dist.	4783 Jul 27 00:40	4° \approx 34'15	4.29631 AU	opposition	4789 Jan 20 21:50	2° \mathcal{Q} 28'17	4.07502 AU
	4783 Sep 13 18:45	30° $\mathcal{R}\mathcal{B}$			4789 Jan 22 09:42	2° \mathcal{Q} 16'04	0°-10'-32
desc. node	4783 Sep 19 17:52	29° \mathcal{B} 50'28		direct	4789 Feb 08 17:49	30° $\mathcal{R}\mathcal{B}$	
direct	4783 Sep 25 10:24	29° \mathcal{B} 47'28		asc. node	4789 Mar 21 22:50	27° \mathcal{B} 17'40	
	4783 Oct 07 01:28	0° \approx			4789 Apr 13 05:37	28° \mathcal{B} 07'05	
	4784 Jan 15 10:18	15° \approx			4789 May 02 05:46	0° \mathcal{Q}	
evening set	4784 Jan 28 20:43	18° \approx 01'14		evening set	4789 Jul 20 17:28	15° \mathcal{Q}	
max. Earth dist.	4784 Feb 08 13:11	20° \approx 28'00	6.22118 AU		4789 Jul 26 12:06	16° \mathcal{Q} 18'39	
conjunction	4784 Feb 10 13:53	20° \approx 55'59	0°-11'-48	conjunction	4789 Aug 09 05:21	19° \mathcal{Q} 26'52	0°10'13
minimum elong	4784 Feb 10 13:53	20° \approx 55'58	0°11'48	minimum elong	4789 Aug 09 05:20	19° \mathcal{Q} 26'51	0°10'12
behind sun begin	4784 Feb 10 08:13	20° \approx 52'44		behind sun begin	4789 Aug 08 22:44	19° \mathcal{Q} 23'06	
behind sun end	4784 Feb 10 19:33	20° \approx 59'13		behind sun end	4789 Aug 09 11:55	19° \mathcal{Q} 30'36	
morning rise	4784 Feb 23 06:45	23° \approx 50'51		max. Earth dist.	4789 Aug 11 10:04	19° \mathcal{Q} 57'02	6.15047 AU
	4784 Mar 21 23:49	0° \mathcal{H}		morning rise	4789 Aug 22 23:05	22° \mathcal{Q} 34'57	
retrograde	4784 Jun 28 05:34	12° \mathcal{H} 25'44		retrograde	4789 Sep 25 23:26	0° \mathcal{H}	
opposition	4784 Aug 27 22:02	7° \mathcal{H} 31'35	0°-40'-46	min. Earth dist.	4789 Dec 27 06:53	11° \mathcal{H} 16'48	
min. Earth dist.	4784 Aug 29 02:23	7° \mathcal{H} 22'26	4.14251 AU	opposition	4790 Feb 23 21:36	6° \mathcal{H} 23'36	4.22844 AU
direct	4784 Oct 27 14:28	2° \mathcal{H} 35'00		direct	4790 Feb 25 02:07	6° \mathcal{H} 13'59	0°38'37
evening set	4785 Mar 02 02:45	21° \mathcal{H} 32'27		evening set	4790 Apr 25 19:55	1° \mathcal{H} 13'10	
conjunction	4785 Mar 14 22:21	24° \mathcal{H} 34'35	0°-41'-12	conjunction	4790 Aug 30 11:33	19° \mathcal{H} 30'57	
minimum elong	4785 Mar 14 22:20	24° \mathcal{H} 34'34	0°41'13	minimum elong	4790 Sep 13 01:01	22° \mathcal{H} 30'48	0°39'45
max. Earth dist.	4785 Mar 13 17:57	24° \mathcal{H} 17'43	6.06868 AU	max. Earth dist.	4790 Sep 13 01:00	22° \mathcal{H} 30'47	0°39'46
morning rise	4785 Mar 27 19:04	27° \mathcal{H} 37'36		morning rise	4790 Sep 14 08:47	22° \mathcal{H} 48'24	6.30410 AU
	4785 Apr 06 22:11	0° \mathcal{Y}			4790 Sep 26 13:13	25° \mathcal{H} 29'47	
retrograde	4785 Aug 04 09:37	17° \mathcal{Y} 24'38		retrograde	4790 Oct 17 11:34	0° \mathcal{A}	
opposition	4785 Oct 03 14:23	12° \mathcal{Y} 27'29	-1°-17'-21	opposition	4791 Jan 27 16:09	13° \mathcal{A} 06'37	
min. Earth dist.	4785 Oct 04 00:07	12° \mathcal{Y} 24'17	4.00458 AU	min. Earth dist.	4791 Mar 28 18:35	8° \mathcal{A} 07'13	1°12'34
direct	4785 Dec 01 20:58	7° \mathcal{Y} 32'58		direct	4791 Mar 28 06:48	8° \mathcal{A} 11'07	4.36973 AU
evening set	4786 Apr 06 13:28	27° \mathcal{Y} 09'43		evening set	4791 May 28 21:25	3° \mathcal{A} 05'07	
	4786 Apr 18 06:52	0° \mathcal{B}			4791 Oct 02 09:03	20° \mathcal{A} 47'59	
conjunction	4786 Apr 19 14:52	0° \mathcal{B} 19'24	0°-56'-59	conjunction	4791 Oct 15 16:08	23° \mathcal{A} 40'25	0°56'10
				minimum elong	4791 Oct 15 16:07	23° \mathcal{A} 40'24	0°56'11

max. Earth dist.	4791 Oct 15 19:14	23°♄42'06	6.42223 AU	min. Earth dist.	4797 Oct 09 00:45	17°♊30'45	3.98905 AU
morning rise	4791 Oct 28 21:00	26°♄31'37		direct	4797 Dec 06 19:22	12°♊38'30	
	4791 Nov 14 06:25	0°♌			4798 Apr 01 21:16	0°♋	
retrograde	4792 Feb 26 18:23	13°♌25'44		evening set	4798 Apr 11 14:42	2°♋19'50	
opposition	4792 Apr 27 06:06	8°♌29'49	1°24'37				
min. Earth dist.	4792 Apr 27 12:54	8°♌27'36	4.45788 AU	conjunction	4798 Apr 24 17:02	5°♋30'28	0°-57'-29
direct	4792 Jun 28 10:05	3°♌27'26		minimum elong	4798 Apr 24 17:02	5°♋30'28	0°57'31
	4792 Oct 04 08:07	15°♌		max. Earth dist.	4798 Apr 25 00:13	5°♋34'50	5.94768 AU
evening set	4792 Nov 01 15:40	20°♌51'24		morning rise	4798 May 07 22:05	8°♋42'40	
					4798 Jun 03 16:12	15°♋	
conjunction	4792 Nov 14 16:28	23°♌39'19	0°56'41	retrograde	4798 Sep 17 03:19	29°♋25'42	
minimum elong	4792 Nov 14 16:29	23°♌39'19	0°56'41	opposition	4798 Nov 15 21:20	24°♋24'23	-1°-23'-50
max. Earth dist.	4792 Nov 13 17:19	23°♌26'51	6.47385 AU	min. Earth dist.	4798 Nov 15 03:58	24°♋30'13	3.93037 AU
morning rise	4792 Nov 27 14:31	26°♌25'58		direct	4799 Jan 12 22:20	19°♋30'21	
	4792 Dec 14 12:54	0°♍			4799 Apr 08 01:08	0°♌	
retrograde	4793 Mar 27 16:54	13°♍05'32		evening set	4799 May 19 01:02	9°♌24'34	
opposition	4793 May 27 11:57	8°♍12'14	1°14'11				
min. Earth dist.	4793 May 28 11:51	8°♍04'35	4.47089 AU	conjunction	4799 Jun 01 11:36	12°♌39'33	0°-48'-4
direct	4793 Jul 29 05:10	3°♍10'27		minimum elong	4799 Jun 01 11:38	12°♌39'34	0°48'06
evening set	4793 Dec 02 02:30	20°♍34'19		max. Earth dist.	4799 Jun 03 04:51	13°♌04'31	5.93777 AU
max. Earth dist.	4793 Dec 13 01:59	22°♍57'13	6.44681 AU	morning rise	4799 Jun 15 00:52	15°♌55'57	
					4799 Aug 19 02:46	0°♎	
conjunction	4793 Dec 14 22:23	23°♍21'23	0°42'06	retrograde	4799 Oct 25 01:18	6°♎34'01	
minimum elong	4793 Dec 14 22:24	23°♍21'24	0°42'07	min. Earth dist.	4799 Dec 22 03:40	1°♎41'08	3.97129 AU
morning rise	4793 Dec 27 16:09	26°♍07'31		opposition	4799 Dec 23 12:40	1°♎29'54	0°-53'-7
	4794 Jan 14 21:02	0°♏			4800 Jan 03 17:25	30°♏♌	
retrograde	4794 Apr 27 13:40	13°♏02'09		direct	4800 Feb 19 10:55	26°♌34'02	
opposition	4794 Jun 27 11:28	8°♏09'59	0°44'03		4800 Apr 05 14:16	0°♎	
min. Earth dist.	4794 Jun 28 23:22	7°♏58'32	4.40547 AU	evening set	4800 Jun 24 20:20	16°♎09'17	
direct	4794 Aug 29 02:52	3°♏09'22					
evening set	4795 Jan 01 16:03	20°♏52'29		conjunction	4800 Jul 08 12:44	19°♎22'55	0°-19'-44
max. Earth dist.	4795 Jan 12 05:12	23°♏13'10	6.34741 AU	minimum elong	4800 Jul 08 12:45	19°♎22'55	0°19'45
				max. Earth dist.	4800 Jul 10 22:06	19°♎56'46	6.02499 AU
conjunction	4795 Jan 14 09:32	23°♏42'22	0°15'47	morning rise	4800 Jul 22 07:09	22°♎37'17	
minimum elong	4795 Jan 14 09:33	23°♏42'23	0°15'47		4800 Aug 24 00:16	0°♏	
behind sun begin	4795 Jan 14 07:41	23°♏41'21		retrograde	4800 Nov 28 15:55	12°♏21'37	
behind sun end	4795 Jan 14 11:25	23°♏43'25		min. Earth dist.	4801 Jan 25 17:24	7°♏29'35	4.09452 AU
morning rise	4795 Jan 27 01:29	26°♏31'46		opposition	4801 Jan 27 06:04	7°♏17'06	0°-3'-13
	4795 Feb 11 21:53	0°♐		asc. node	4801 Feb 21 01:25	4°♏10'38	
retrograde	4795 May 30 03:22	14°♐10'02		direct	4801 Mar 26 21:40	2°♏18'23	
opposition	4795 Jul 30 01:21	9°♐17'26	0°00'07		4801 Jul 03 07:34	15°♏	
desc. node	4795 Jul 31 01:26	9°♐09'44		evening set	4801 Jul 31 12:36	21°♏13'27	
min. Earth dist.	4795 Jul 31 14:11	9°♐05'40	4.27743 AU				
direct	4795 Sep 29 20:48	4°♐18'46		conjunction	4801 Aug 14 05:36	24°♏20'33	0°14'53
	4795 Dec 29 09:50	15°♐		minimum elong	4801 Aug 14 05:35	24°♏20'32	0°14'53
evening set	4796 Feb 02 07:47	22°♐37'48		behind sun begin	4801 Aug 14 02:44	24°♏18'55	
max. Earth dist.	4796 Feb 13 02:21	25°♐06'29	6.20062 AU	behind sun end	4801 Aug 14 08:26	24°♏22'09	
				max. Earth dist.	4801 Aug 16 08:33	24°♏49'34	6.17287 AU
conjunction	4796 Feb 15 01:02	25°♐33'25	0°-16'-14	morning rise	4801 Aug 27 22:45	27°♏27'23	
minimum elong	4796 Feb 15 01:01	25°♐33'25	0°16'15		4801 Sep 08 07:48	0°♑	
behind sun begin	4796 Feb 15 00:42	25°♐33'14		retrograde	4801 Dec 31 19:36	15°♑58'59	
behind sun end	4796 Feb 15 01:19	25°♐33'35		opposition	4802 Mar 01 15:06	10°♑56'35	0°44'29
morning rise	4796 Feb 27 18:10	28°♐29'16		min. Earth dist.	4802 Feb 28 12:52	11°♑05'25	4.25159 AU
	4796 Mar 05 09:02	0°♒		direct	4802 Apr 30 14:47	5°♑55'34	
retrograde	4796 Jul 03 06:02	17°♒13'51		evening set	4802 Sep 04 04:13	24°♑06'52	
opposition	4796 Sep 01 20:13	12°♒19'23	0°-46'-52				
min. Earth dist.	4796 Sep 02 23:40	12°♒10'30	4.12167 AU	conjunction	4802 Sep 17 16:53	27°♑05'28	0°42'55
direct	4796 Nov 01 09:23	7°♒23'05		minimum elong	4802 Sep 17 16:51	27°♑05'27	0°42'54
evening set	4797 Mar 06 20:41	26°♒26'39		max. Earth dist.	4802 Sep 18 22:01	27°♑21'32	6.32618 AU
					4802 Sep 30 22:23	0°♓	
conjunction	4797 Mar 19 16:54	29°♒29'53	0°-44'-26	morning rise	4802 Oct 01 04:03	0°♓03'06	
minimum elong	4797 Mar 19 16:53	29°♒29'52	0°44'27	retrograde	4803 Jan 31 19:55	17°♓31'28	
max. Earth dist.	4797 Mar 18 15:30	29°♒14'45	6.04943 AU	opposition	4803 Apr 02 01:15	12°♓32'32	1°15'31
	4797 Mar 21 19:25	0°♑		min. Earth dist.	4803 Apr 01 15:01	12°♓35'55	4.38919 AU
morning rise	4797 Apr 01 14:27	2°♑34'07		direct	4803 Jun 02 07:49	7°♓30'20	
retrograde	4797 Aug 09 14:58	22°♑30'22		evening set	4803 Oct 06 18:25	25°♓08'13	
opposition	4797 Oct 08 18:35	17°♑32'47	-1°-20'-28				





































































































































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minimum elong	4803 Oct 20 00:30	27°♄59'37	0°57'09	morning rise	4809 Apr 06 11:42	7°♃35'35	
max. Earth dist.	4803 Oct 20 00:01	27°♄59'22	6.43765 AU	retrograde	4809 Aug 14 23:47	27°♃42'51	
	4803 Oct 29 07:32	0°♄		opposition	4809 Oct 14 01:27	22°♃44'42	-1°-23'00
morning rise	4803 Nov 02 04:14	0°♄49'47		min. Earth dist.	4809 Oct 14 04:14	22°♃43'47	3.97015 AU
	4804 Jan 19 18:26	15°♄		direct	4809 Dec 11 21:42	17°♃50'33	
retrograde	4804 Mar 01 20:17	17°♄38'54			4810 Mar 15 02:58	0°♄	
	4804 Apr 13 02:35	15°♄		evening set	4810 Apr 16 18:59	7°♄37'31	
opposition	4804 May 01 09:21	12°♄43'25	1°24'23				
min. Earth dist.	4804 May 01 19:08	12°♄40'15	4.46821 AU	conjunction	4810 Apr 29 22:40	10°♄49'19	0°-57'-31
direct	4804 Jul 02 17:16	7°♄41'04		minimum elong	4810 Apr 29 22:41	10°♄49'19	0°57'32
	4804 Sep 15 22:40	15°♄		max. Earth dist.	4810 Apr 30 12:41	10°♄57'51	5.93552 AU
evening set	4804 Nov 05 19:54	25°♄02'34		morning rise	4810 May 13 04:53	14°♄02'39	
					4810 May 17 04:03	15°♄	
conjunction	4804 Nov 18 19:48	27°♄49'59	0°55'29		4810 Jul 27 22:50	0°♄	
minimum elong	4804 Nov 18 19:49	27°♄49'59	0°55'29	retrograde	4810 Sep 22 15:45	4°♄50'07	
max. Earth dist.	4804 Nov 17 15:44	27°♄34'52	6.47812 AU		4810 Nov 19 20:07	30°♄	
	4804 Nov 28 21:36	0°♄		min. Earth dist.	4810 Nov 20 10:39	29°♄55'06	3.92660 AU
morning rise	4804 Dec 01 17:13	0°♄36'12		opposition	4810 Nov 21 06:53	29°♄48'17	-1°-21'-20
retrograde	4805 Mar 31 19:24	17°♄15'07		direct	4811 Jan 18 05:52	24°♄54'08	
opposition	4805 May 31 15:16	12°♄22'00	1°11'04		4811 Mar 15 23:46	0°♄	
min. Earth dist.	4805 Jun 01 17:45	12°♄13'31	4.46883 AU	evening set	4811 May 24 10:22	14°♄48'35	
direct	4805 Aug 02 09:49	7°♄20'14					
evening set	4805 Dec 06 04:43	24°♄44'53		conjunction	4811 Jun 06 21:53	18°♄03'50	0°-44'-54
max. Earth dist.	4805 Dec 17 02:39	27°♄07'12	6.43843 AU	minimum elong	4811 Jun 06 21:55	18°♄03'51	0°44'57
				max. Earth dist.	4811 Jun 08 18:39	18°♄30'52	5.94253 AU
conjunction	4805 Dec 19 00:18	27°♄32'06	0°39'05	morning rise	4811 Jun 20 12:23	21°♄20'30	
minimum elong	4805 Dec 19 00:19	27°♄32'07	0°39'05		4811 Jul 28 06:38	0°♄	
	4805 Dec 30 07:39	0°♄		retrograde	4811 Oct 30 05:29	11°♄53'48	
morning rise	4805 Dec 31 17:30	0°♄18'22		min. Earth dist.	4811 Dec 27 06:14	7°♄01'32	3.98397 AU
retrograde	4806 May 01 19:00	17°♄17'04		opposition	4811 Dec 28 17:57	6°♄49'21	0°-46'-37
opposition	4806 Jul 01 18:18	12°♄24'54	0°38'42	direct	4812 Feb 24 16:27	1°♄53'04	
min. Earth dist.	4806 Jul 03 07:03	12°♄13'12	4.39106 AU	evening set	4812 Jun 30 03:50	21°♄23'22	
direct	4806 Sep 02 07:39	7°♄24'28					
evening set	4807 Jan 05 20:41	25°♄11'45		conjunction	4812 Jul 13 20:41	24°♄36'17	0°-14'-49
max. Earth dist.	4807 Jan 16 07:59	27°♄32'05	6.32789 AU	minimum elong	4812 Jul 13 20:42	24°♄36'17	0°14'51
				behind sun begin	4812 Jul 13 17:43	24°♄34'32	
conjunction	4807 Jan 18 13:53	28°♄02'18	0°11'36	behind sun end	4812 Jul 13 23:42	24°♄38'02	
minimum elong	4807 Jan 18 13:54	28°♄02'18	0°11'37	max. Earth dist.	4812 Jul 16 06:43	25°♄10'22	6.04411 AU
behind sun begin	4807 Jan 18 08:10	27°♄59'06		morning rise	4812 Jul 27 15:14	27°♄49'46	
behind sun end	4807 Jan 18 19:38	28°♄05'30			4812 Aug 06 00:46	0°♄	
	4807 Jan 27 07:56	0°♄			4812 Oct 25 12:34	15°♄	
morning rise	4807 Jan 31 05:58	0°♄52'29		retrograde	4812 Dec 03 12:56	17°♄23'40	
	4807 Apr 14 19:54	15°♄		asc. node	4812 Dec 30 22:07	16°♄09'44	
retrograde	4807 Jun 03 19:11	18°♄39'23			4813 Jan 11 08:06	15°♄	
desc. node	4807 Jun 11 10:41	18°♄33'52		min. Earth dist.	4813 Jan 30 15:58	12°♄31'14	4.11747 AU
	4807 Jul 24 23:09	15°♄		opposition	4813 Feb 01 03:19	12°♄19'13	0°04'10
opposition	4807 Aug 03 15:14	13°♄46'36	0°-6'-23	direct	4813 Apr 01 00:12	7°♄20'04	
min. Earth dist.	4807 Aug 05 04:44	13°♄34'35	4.25376 AU		4813 Jun 13 09:47	15°♄	
direct	4807 Oct 04 08:02	8°♄48'07		evening set	4813 Aug 05 13:18	26°♄07'55	
	4807 Dec 09 16:44	15°♄					
evening set	4808 Feb 06 18:25	27°♄14'15		conjunction	4813 Aug 19 05:56	29°♄13'44	0°19'30
max. Earth dist.	4808 Feb 17 14:45	29°♄44'46	6.17480 AU	minimum elong	4813 Aug 19 05:55	29°♄13'43	0°19'30
	4808 Feb 18 16:59	0°♄		max. Earth dist.	4813 Aug 21 07:49	29°♄41'58	6.19739 AU
					4813 Aug 22 15:40	0°♄	
conjunction	4808 Feb 19 12:04	0°♄11'04	0°-20'-33	morning rise	4813 Sep 01 22:22	2°♄19'09	
minimum elong	4808 Feb 19 12:03	0°♄11'03	0°20'33	retrograde	4814 Jan 05 05:57	20°♄39'57	
morning rise	4808 Mar 03 05:40	3°♄08'12		min. Earth dist.	4814 Mar 05 02:37	15°♄46'26	4.27542 AU
retrograde	4808 Jul 08 06:14	22°♄04'28		opposition	4814 Mar 06 03:48	15°♄38'00	0°50'05
opposition	4808 Sep 06 19:00	17°♄09'39	0°-52'-41	direct	4814 May 05 07:25	10°♄36'45	
min. Earth dist.	4808 Sep 07 19:49	17°♄01'37	4.09582 AU	evening set	4814 Sep 08 21:02	28°♄41'44	
direct	4808 Nov 06 01:33	12°♄13'40			4814 Sep 14 20:10	0°♄	
	4809 Mar 05 16:04	0°♄					
evening set	4809 Mar 11 16:13	1°♄25'16		conjunction	4814 Sep 22 08:40	1°♄39'03	0°45'50
				minimum elong	4814 Sep 22 08:38	1°♄39'02	0°45'51
conjunction	4809 Mar 24 13:07	4°♄29'52	0°-47'-21	max. Earth dist.	4814 Sep 23 08:37	1°♄52'12	6.34738 AU
minimum elong	4809 Mar 24 13:06	4°♄29'51	0°47'21	morning rise	4814 Oct 05 18:50	4°♄35'22	

retrograde	4815 Feb 05 02:54	21°♄55'58		direct	4820 Nov 11 00:00	17°♋15'48	
opposition	4815 Apr 06 08:21	16°♄57'35	1°18'07		4821 Feb 16 06:13	0°♑	
min. Earth dist.	4815 Apr 06 01:52	16°♄59'43	4.40634 AU	evening set	4821 Mar 16 15:40	6°♑34'02	
direct	4815 Jun 06 20:15	11°♄55'17					
evening set	4815 Oct 11 04:18	29°♄29'14		conjunction	4821 Mar 29 13:29	9°♑39'50	0°-50'-2
	4815 Oct 13 13:43	0°♌		minimum elong	4821 Mar 29 13:28	9°♑39'49	0°50'02
				max. Earth dist.	4821 Mar 28 21:30	9°♑30'13	6.00768 AU
conjunction	4815 Oct 24 09:31	2°♌19'50	0°57'51	morning rise	4821 Apr 11 12:53	12°♑46'47	
minimum elong	4815 Oct 24 09:31	2°♌19'50	0°57'51		4821 Jul 06 21:52	0°♄	
max. Earth dist.	4815 Oct 24 04:59	2°♌17'23	6.44940 AU	retrograde	4821 Aug 20 11:08	3°♄02'28	
morning rise	4815 Nov 06 12:14	5°♌09'09			4821 Oct 04 10:12	30°♑	
	4815 Dec 26 03:00	15°♌		opposition	4821 Oct 19 10:35	28°♑03'53	-1°-24'-56
retrograde	4816 Mar 05 23:15	21°♌54'46		min. Earth dist.	4821 Oct 19 10:03	28°♑04'03	3.95845 AU
opposition	4816 May 05 14:13	16°♌59'42	1°23'46	direct	4821 Dec 17 02:53	23°♑09'56	
min. Earth dist.	4816 May 06 02:09	16°♌55'50	4.47414 AU		4822 Feb 22 02:53	0°♄	
	4816 May 21 11:21	15°♌		evening set	4822 Apr 22 01:15	12°♄59'44	
direct	4816 Jul 06 23:38	11°♌57'23			4822 Apr 30 07:18	15°♄	
	4816 Aug 22 16:01	15°♌					
evening set	4816 Nov 10 01:55	29°♌17'59		conjunction	4822 May 05 05:52	16°♄12'13	0°-57'-7
	4816 Nov 13 08:28	0°♊		minimum elong	4822 May 05 05:53	16°♄12'13	0°57'08
max. Earth dist.	4816 Nov 21 18:31	1°♊48'39	6.47783 AU	max. Earth dist.	4822 May 06 00:05	16°♄23'18	5.93137 AU
				morning rise	4822 May 18 13:27	19°♄26'19	
conjunction	4816 Nov 23 01:07	2°♊05'08	0°53'59		4822 Jul 03 22:38	0°♈	
minimum elong	4816 Nov 23 01:08	2°♊05'08	0°54'00	retrograde	4822 Sep 27 23:55	10°♈14'30	
morning rise	4816 Dec 05 21:42	4°♊51'05		opposition	4822 Nov 26 15:32	5°♈12'09	-1°-18'-10
retrograde	4817 Apr 05 00:59	21°♊30'59		min. Earth dist.	4822 Nov 25 15:20	5°♈20'20	3.93078 AU
opposition	4817 Jun 04 21:35	16°♊38'11	1°07'32	direct	4823 Jan 23 12:43	0°♈17'48	
min. Earth dist.	4817 Jun 06 02:30	16°♊28'56	4.46236 AU	evening set	4823 May 29 18:14	20°♈09'35	
direct	4817 Aug 06 16:52	11°♊36'36					
evening set	4817 Dec 10 10:32	29°♊03'28		conjunction	4823 Jun 12 06:45	23°♈24'42	0°-41'-28
	4817 Dec 14 18:29	0°♉		minimum elong	4823 Jun 12 06:47	23°♈24'43	0°41'29
max. Earth dist.	4817 Dec 21 04:20	1°♉24'03	6.42612 AU	max. Earth dist.	4823 Jun 14 07:10	23°♈53'52	5.95454 AU
				morning rise	4823 Jun 25 21:58	26°♈41'07	
conjunction	4817 Dec 23 05:32	1°♉50'58	0°35'46		4823 Jul 09 23:10	0°♉	
minimum elong	4817 Dec 23 05:34	1°♉50'59	0°35'46	retrograde	4823 Nov 04 07:35	17°♉06'58	
morning rise	4818 Jan 04 22:36	4°♉37'38		min. Earth dist.	4824 Jan 01 08:22	12°♉14'29	4.00213 AU
retrograde	4818 May 06 06:58	21°♉41'47		opposition	4824 Jan 02 20:08	12°♉02'18	0°-39'-56
opposition	4818 Jul 06 05:30	16°♉49'39	0°32'55	direct	4824 Feb 29 22:15	7°♉05'34	
min. Earth dist.	4818 Jul 07 19:21	16°♉37'34	4.37359 AU	evening set	4824 Jul 05 07:51	26°♉29'17	
direct	4818 Sep 06 16:58	11°♉49'24					
evening set	4819 Jan 10 05:32	29°♉41'55		conjunction	4824 Jul 19 01:01	29°♉41'16	0°-9'-58
	4819 Jan 11 13:55	0°♈		minimum elong	4824 Jul 19 01:01	29°♉41'16	0°10'01
max. Earth dist.	4819 Jan 20 17:50	2°♈03'27	6.30662 AU	behind sun begin	4824 Jul 18 18:19	29°♉37'22	
				behind sun end	4824 Jul 19 07:44	29°♉45'10	
conjunction	4819 Jan 22 22:49	2°♈33'17	0°07'11		4824 Jul 20 09:07	0°♈	
minimum elong	4819 Jan 22 22:50	2°♈33'17	0°07'12	max. Earth dist.	4824 Jul 21 12:04	0°♈15'44	6.06663 AU
behind sun begin	4819 Jan 22 15:30	2°♈29'11		morning rise	4824 Aug 01 19:30	2°♈53'39	
behind sun end	4819 Jan 23 06:10	2°♈37'24			4824 Sep 27 21:40	15°♈	
morning rise	4819 Feb 04 14:50	5°♈24'21		asc. node	4824 Nov 10 05:10	21°♈00'38	
	4819 Mar 22 06:16	15°♈		retrograde	4824 Dec 08 04:36	22°♈16'13	
desc. node	4819 Apr 20 22:40	19°♈51'17		min. Earth dist.	4825 Feb 04 09:12	17°♈23'52	4.14190 AU
retrograde	4819 Jun 08 14:32	23°♈20'35		opposition	4825 Feb 05 20:10	17°♈12'00	0°11'13
opposition	4819 Aug 08 10:05	18°♈27'40	0°-13'-11		4825 Feb 22 16:18	15°♈	
min. Earth dist.	4819 Aug 09 22:22	18°♈16'03	4.23015 AU	direct	4825 Apr 05 20:39	12°♈12'29	
	4819 Sep 07 08:13	15°♈			4825 May 18 06:42	15°♈	
direct	4819 Oct 08 21:42	13°♈29'36			4825 Aug 06 11:01	0°♑	
	4819 Nov 09 07:07	15°♈		evening set	4825 Aug 10 10:08	0°♑53'08	
	4820 Feb 02 11:48	0°♋					
evening set	4820 Feb 11 09:47	2°♋02'46		conjunction	4825 Aug 24 02:07	3°♑57'38	0°23'49
max. Earth dist.	4820 Feb 22 07:59	4°♋35'14	6.15079 AU	minimum elong	4825 Aug 24 02:06	3°♑57'37	0°23'48
				max. Earth dist.	4825 Aug 25 23:14	4°♑23'02	6.22156 AU
conjunction	4820 Feb 24 03:35	5°♋00'41	0°-24'-55	morning rise	4825 Sep 06 17:57	7°♑01'41	
minimum elong	4820 Feb 24 03:34	5°♋00'41	0°24'56	retrograde	4826 Jan 09 14:49	25°♑12'25	
morning rise	4820 Mar 07 21:50	7°♋59'05		opposition	4826 Mar 10 13:04	20°♑10'54	0°55'11
retrograde	4820 Jul 13 11:47	27°♋06'37		min. Earth dist.	4826 Mar 09 15:14	20°♑18'12	4.29727 AU
opposition	4820 Sep 11 22:27	22°♋11'26	0°-58'-23	direct	4826 May 09 22:07	15°♑09'22	
min. Earth dist.	4820 Sep 12 20:31	22°♋04'14	4.07354 AU		4826 Aug 29 18:16	0°♎	

evening set	4826 Sep 13 10:01	3°♂08'53		retrograde	4832 Jul 18 17:07	2°♂09'04	
					4832 Aug 25 09:23	30°♂13'28	-1°-3'-39
conjunction	4826 Sep 26 20:58	6°♂05'08	0°48'25	opposition	4832 Sep 17 02:14	27°♂07'08	4.05551 AU
minimum elong	4826 Sep 26 20:56	6°♂05'07	0°48'25	min. Earth dist.	4832 Sep 17 21:41	22°♂18'11	
max. Earth dist.	4826 Sep 27 17:49	6°♂16'32	6.36530 AU	direct	4832 Nov 15 22:48	0°♂	
morning rise	4826 Oct 10 06:00	9°♂00'17			4833 Jan 27 14:29	11°♂41'15	
retrograde	4827 Feb 09 05:30	26°♂14'31		evening set	4833 Mar 21 15:03		
opposition	4827 Apr 10 13:00	21°♂16'37	1°20'14				
min. Earth dist.	4827 Apr 10 08:34	21°♂18'05	4.41932 AU	conjunction	4833 Apr 03 13:29	14°♂47'58	0°-52'-18
direct	4827 Jun 11 03:14	16°♂14'17		minimum elong	4833 Apr 03 13:27	14°♂40'23	5.99416 AU
	4827 Sep 27 14:55	0°♂		max. Earth dist.	4833 Apr 16 14:00	17°♂55'59	
evening set	4827 Oct 15 12:03	3°♂45'36		morning rise	4833 Jun 10 02:18	0°♂	
					4833 Aug 25 18:54	8°♂18'01	
conjunction	4827 Oct 28 16:18	6°♂35'33	0°58'15	retrograde	4833 Oct 24 18:10	3°♂18'52	-1°-26'-7
minimum elong	4827 Oct 28 16:17	6°♂35'33	0°58'14	opposition	4833 Oct 24 13:15	3°♂20'30	3.95099 AU
max. Earth dist.	4827 Oct 28 06:35	6°♂30'20	6.45654 AU	min. Earth dist.	4833 Nov 21 05:26	30°♂	
morning rise	4827 Nov 10 18:11	9°♂24'16		direct	4833 Dec 22 06:37	28°♂24'59	
	4827 Dec 07 16:24	15°♂			4834 Jan 22 02:41	0°♂	
retrograde	4828 Mar 10 03:34	26°♂07'53			4834 Apr 13 14:04	15°♂	
opposition	4828 May 09 18:08	21°♂13'14	1°22'46	evening set	4834 Apr 27 05:42	18°♂16'07	
min. Earth dist.	4828 May 10 09:44	21°♂08'12	4.47524 AU				
direct	4828 Jul 11 06:24	16°♂10'57		conjunction	4834 May 10 11:28	21°♂29'10	0°-56'-15
	4828 Oct 28 12:24	0°♂		minimum elong	4834 May 10 11:28	21°♂29'10	0°56'16
evening set	4828 Nov 14 07:11	3°♂32'01		max. Earth dist.	4834 May 11 11:08	21°♂43'35	5.93062 AU
max. Earth dist.	4828 Nov 25 19:33	6°♂00'39	6.47279 AU	morning rise	4834 May 23 20:00	24°♂43'46	
					4834 Jun 15 02:31	0°♂	
conjunction	4828 Nov 27 05:48	6°♂19'08	0°52'14	retrograde	4834 Oct 03 06:56	15°♂31'22	
minimum elong	4828 Nov 27 05:50	6°♂19'08	0°52'15	opposition	4834 Dec 01 21:21	10°♂28'35	-1°-14'-24
morning rise	4828 Dec 10 01:51	9°♂05'05		min. Earth dist.	4834 Nov 30 19:48	10°♂37'14	3.93682 AU
retrograde	4829 Apr 09 07:13	25°♂47'23		direct	4835 Jan 28 18:45	5°♂34'00	
opposition	4829 Jun 09 04:17	20°♂54'44	1°03'42	evening set	4835 Jun 03 23:46	25°♂22'53	
min. Earth dist.	4829 Jun 10 10:17	20°♂45'08	4.45172 AU				
direct	4829 Aug 10 22:14	15°♂53'16		conjunction	4835 Jun 17 13:11	28°♂37'51	0°-37'-45
	4829 Nov 28 20:53	0°♂		minimum elong	4835 Jun 17 13:13	28°♂37'52	0°37'46
evening set	4829 Dec 14 16:35	3°♂23'28		max. Earth dist.	4835 Jun 19 16:51	29°♂08'50	5.96669 AU
max. Earth dist.	4829 Dec 25 10:06	5°♂44'23	6.41075 AU		4835 Jun 23 06:13	0°♂	
				morning rise	4835 Jul 01 05:09	1°♂54'00	
conjunction	4829 Dec 27 11:21	6°♂11'26	0°32'15	retrograde	4835 Nov 09 06:48	22°♂12'28	
minimum elong	4829 Dec 27 11:22	6°♂11'27	0°32'15	min. Earth dist.	4836 Jan 06 06:33	17°♂20'17	4.01908 AU
morning rise	4830 Jan 09 04:02	8°♂58'36		opposition	4836 Jan 07 19:15	17°♂07'47	0°-33'-6
retrograde	4830 May 10 20:05	26°♂09'07		direct	4836 Mar 05 22:52	12°♂10'43	
opposition	4830 Jul 10 18:11	21°♂17'00	0°26'54	evening set	4836 Jul 03 23:25	0°♂	
min. Earth dist.	4830 Jul 12 08:32	21°♂04'47	4.35440 AU		4836 Jul 10 09:50	1°♂28'54	
direct	4830 Sep 11 03:03	16°♂17'05		conjunction	4836 Jul 24 03:02	4°♂40'01	0°-5'-9
	4830 Dec 26 07:41	0°♂		minimum elong	4836 Jul 24 03:01	4°♂40'01	0°05'10
evening set	4831 Jan 14 15:42	4°♂15'00		behind sun begin	4836 Jul 23 18:54	4°♂35'19	
max. Earth dist.	4831 Jan 25 03:24	6°♂36'57	6.28512 AU	behind sun end	4836 Jul 24 11:08	4°♂44'43	
				max. Earth dist.	4836 Jul 26 11:38	5°♂12'55	6.08661 AU
conjunction	4831 Jan 27 08:48	7°♂07'11	0°02'41	morning rise	4836 Aug 06 21:36	7°♂51'28	
minimum elong	4831 Jan 27 08:48	7°♂07'11	0°02'41		4836 Sep 08 01:10	15°♂	
behind sun begin	4831 Jan 27 00:50	7°♂02'42		asc. node	4836 Sep 20 15:49	17°♂34'25	
behind sun end	4831 Jan 27 16:45	7°♂11'40		retrograde	4836 Dec 12 19:21	27°♂04'16	
morning rise	4831 Feb 09 01:06	9°♂59'12		min. Earth dist.	4837 Feb 09 02:25	22°♂11'34	4.16282 AU
desc. node	4831 Feb 28 13:44	14°♂18'27		opposition	4837 Feb 10 11:32	22°♂00'20	0°18'06
	4831 Mar 03 19:09	15°♂		direct	4837 Apr 10 16:29	17°♂00'28	
retrograde	4831 Jun 13 12:20	28°♂04'46		evening set	4837 Jul 20 13:41	0°♂	
opposition	4831 Aug 13 06:30	23°♂11'35	0°-19'-58		4837 Aug 15 05:37	5°♂35'26	
min. Earth dist.	4831 Aug 14 16:56	23°♂00'31	4.20781 AU				
direct	4831 Oct 13 13:41	18°♂13'50		conjunction	4837 Aug 28 21:15	8°♂38'52	0°27'57
	4832 Jan 16 07:55	0°♂		minimum elong	4837 Aug 28 21:14	8°♂38'51	0°27'56
evening set	4832 Feb 16 02:09	6°♂53'17		max. Earth dist.	4837 Aug 30 16:30	9°♂03'08	6.24181 AU
max. Earth dist.	4832 Feb 27 05:23	9°♂29'21	6.12966 AU	morning rise	4837 Sep 11 12:09	11°♂41'41	
				retrograde	4838 Jan 13 22:50	29°♂44'01	
conjunction	4832 Feb 28 20:28	9°♂52'15	0°-29'-8	opposition	4838 Mar 14 22:02	24°♂43'03	0°59'55
minimum elong	4832 Feb 28 20:27	9°♂52'15	0°29'09	min. Earth dist.	4838 Mar 14 02:08	24°♂49'41	4.31524 AU
morning rise	4832 Mar 12 15:04	12°♂51'44					
	4832 Jun 11 05:46	0°♂					

direct	4838 May 14 10:33	19° $\overline{\text{M}}$ 41'25			4843 Aug 01 07:53	30° $\overline{\text{R}}$ \approx	
	4838 Aug 12 07:30	0° $\underline{\text{A}}$		opposition	4843 Aug 18 02:29	27° \approx 55'03	0°-26'-30
evening set	4838 Sep 17 23:27	7° $\underline{\text{A}}$ 36'51		min. Earth dist.	4843 Aug 19 11:50	27° \approx 44'19	4.19123 AU
				direct	4843 Oct 18 06:18	22° \approx 57'40	
conjunction	4838 Oct 01 09:22	10° $\underline{\text{A}}$ 32'08	0°50'43		4843 Dec 27 19:20	0° H	
minimum elong	4838 Oct 01 09:21	10° $\underline{\text{A}}$ 32'08	0°50'43	evening set	4844 Feb 20 17:12	11° H 41'13	
max. Earth dist.	4838 Oct 02 00:36	10° $\underline{\text{A}}$ 40'27	6.37954 AU	max. Earth dist.	4844 Mar 02 22:25	14° H 19'01	6.11437 AU
morning rise	4838 Oct 14 17:35	13° $\underline{\text{A}}$ 26'22					
	4839 Jan 25 02:27	0° $\overline{\text{M}}$		conjunction	4844 Mar 04 11:37	14° H 40'54	0°-33'-2
retrograde	4839 Feb 13 11:15	0° $\overline{\text{M}}$ 35'31		minimum elong	4844 Mar 04 11:36	14° H 40'53	0°33'02
	4839 Mar 04 16:30	30° $\overline{\text{R}}$ $\underline{\text{A}}$		morning rise	4844 Mar 17 06:52	17° H 41'16	
opposition	4839 Apr 14 18:41	25° $\underline{\text{A}}$ 38'09	1°21'57		4844 May 13 21:29	0° $\overline{\text{Y}}$	
min. Earth dist.	4839 Apr 14 17:46	25° $\underline{\text{A}}$ 38'26	4.42916 AU	retrograde	4844 Jul 23 17:36	7° $\overline{\text{Y}}$ 06'12	
direct	4839 Jun 15 12:39	20° $\underline{\text{A}}$ 35'46		opposition	4844 Sep 22 03:17	2° $\overline{\text{Y}}$ 10'06	-1°-8'-14
	4839 Sep 10 00:04	0° $\overline{\text{M}}$		min. Earth dist.	4844 Sep 22 19:01	2° $\overline{\text{Y}}$ 04'57	4.04291 AU
evening set	4839 Oct 19 20:42	8° $\overline{\text{M}}$ 05'24			4844 Oct 09 08:05	30° $\overline{\text{R}}$ H	
				direct	4844 Nov 20 19:33	27° H 15'02	
conjunction	4839 Nov 02 00:17	10° $\overline{\text{M}}$ 54'54	0°58'19		4845 Jan 01 12:00	0° $\overline{\text{Y}}$	
minimum elong	4839 Nov 02 00:17	10° $\overline{\text{M}}$ 54'54	0°58'19	evening set	4845 Mar 26 11:19	16° $\overline{\text{Y}}$ 41'03	
max. Earth dist.	4839 Nov 01 12:10	10° $\overline{\text{M}}$ 48'22	6.46132 AU				
morning rise	4839 Nov 15 01:09	13° $\overline{\text{M}}$ 43'05		conjunction	4845 Apr 08 10:33	19° $\overline{\text{Y}}$ 48'29	0°-54'-5
	4839 Nov 21 01:38	15° $\overline{\text{M}}$		minimum elong	4845 Apr 08 10:32	19° $\overline{\text{Y}}$ 48'28	0°54'06
	4840 Feb 26 20:44	0° $\overline{\text{A}}$		max. Earth dist.	4845 Apr 08 03:23	19° $\overline{\text{Y}}$ 44'09	5.98548 AU
retrograde	4840 Mar 14 07:44	0° $\overline{\text{A}}$ 25'30		morning rise	4845 Apr 21 11:47	22° $\overline{\text{Y}}$ 57'14	
	4840 Mar 30 18:37	30° $\overline{\text{R}}$ $\overline{\text{M}}$			4845 May 21 19:21	0° $\overline{\text{B}}$	
opposition	4840 May 13 23:46	25° $\overline{\text{M}}$ 31'14	1°21'19	retrograde	4845 Aug 30 23:43	13° $\overline{\text{B}}$ 23'36	
min. Earth dist.	4840 May 14 16:34	25° $\overline{\text{M}}$ 25'50	4.47503 AU	opposition	4845 Oct 29 21:07	8° $\overline{\text{B}}$ 23'55	-1°-26'-32
direct	4840 Jul 15 12:15	20° $\overline{\text{M}}$ 29'08		min. Earth dist.	4845 Oct 29 14:28	8° $\overline{\text{B}}$ 26'08	3.94722 AU
	4840 Oct 11 00:35	0° $\overline{\text{A}}$		direct	4845 Dec 27 07:55	3° $\overline{\text{B}}$ 30'00	
evening set	4840 Nov 18 13:55	7° $\overline{\text{A}}$ 50'53			4846 Mar 27 05:53	15° $\overline{\text{B}}$	
max. Earth dist.	4840 Nov 29 23:09	10° $\overline{\text{A}}$ 18'07	6.46775 AU	evening set	4846 May 02 05:49	23° $\overline{\text{B}}$ 21'20	
conjunction	4840 Dec 01 11:47	10° $\overline{\text{A}}$ 37'55	0°50'11	conjunction	4846 May 15 12:35	26° $\overline{\text{B}}$ 34'47	0°-54'-57
minimum elong	4840 Dec 01 11:49	10° $\overline{\text{A}}$ 37'56	0°50'11	minimum elong	4846 May 15 12:36	26° $\overline{\text{B}}$ 34'48	0°54'59
morning rise	4840 Dec 14 07:15	13° $\overline{\text{A}}$ 23'52		max. Earth dist.	4846 May 16 15:50	26° $\overline{\text{B}}$ 51'21	5.93204 AU
	4841 Apr 04 01:32	0° $\overline{\text{B}}$		morning rise	4846 May 28 22:16	29° $\overline{\text{B}}$ 49'49	
retrograde	4841 Apr 13 16:37	0° $\overline{\text{B}}$ 08'38			4846 May 29 15:09	0° $\overline{\text{H}}$	
	4841 Apr 23 06:23	30° $\overline{\text{R}}$ $\overline{\text{A}}$		retrograde	4846 Oct 08 07:27	20° $\overline{\text{H}}$ 35'45	
opposition	4841 Jun 13 13:01	25° $\overline{\text{A}}$ 16'13	0°59'27	opposition	4846 Dec 06 21:39	15° $\overline{\text{H}}$ 32'39	-1°-10'-14
min. Earth dist.	4841 Jun 14 21:02	25° $\overline{\text{A}}$ 06'00	4.44236 AU	min. Earth dist.	4846 Dec 05 17:55	15° $\overline{\text{H}}$ 42'03	3.94350 AU
direct	4841 Aug 15 07:18	20° $\overline{\text{A}}$ 15'01		direct	4847 Feb 02 17:54	10° $\overline{\text{H}}$ 37'49	
	4841 Nov 11 10:12	0° $\overline{\text{B}}$			4847 Jun 07 08:12	0° $\overline{\text{B}}$	
evening set	4841 Dec 19 00:01	7° $\overline{\text{B}}$ 47'52		evening set	4847 Jun 09 00:29	0° $\overline{\text{B}}$ 23'56	
max. Earth dist.	4841 Dec 29 15:39	10° $\overline{\text{B}}$ 08'13	6.39792 AU				
				conjunction	4847 Jun 22 14:35	3° $\overline{\text{B}}$ 38'43	0°-33'-55
conjunction	4841 Dec 31 18:22	10° $\overline{\text{B}}$ 36'10	0°28'32	minimum elong	4847 Jun 22 14:37	3° $\overline{\text{B}}$ 38'44	0°33'57
minimum elong	4841 Dec 31 18:23	10° $\overline{\text{B}}$ 36'11	0°28'33	max. Earth dist.	4847 Jun 24 18:06	4° $\overline{\text{B}}$ 09'31	5.97783 AU
morning rise	4842 Jan 13 10:52	13° $\overline{\text{B}}$ 23'46		morning rise	4847 Jul 06 07:21	6° $\overline{\text{B}}$ 54'39	
	4842 Apr 24 16:12	0° \approx		retrograde	4847 Nov 14 00:56	27° $\overline{\text{B}}$ 06'35	
retrograde	4842 May 15 09:29	0° \approx 39'48		min. Earth dist.	4848 Jan 11 01:23	22° $\overline{\text{B}}$ 14'15	4.03335 AU
	4842 Jun 05 03:34	30° $\overline{\text{R}}$ $\overline{\text{B}}$		opposition	4848 Jan 12 13:46	22° $\overline{\text{B}}$ 01'51	0°-26'-22
opposition	4842 Jul 15 07:53	25° $\overline{\text{B}}$ 47'36	0°20'43	direct	4848 Mar 10 20:13	17° $\overline{\text{B}}$ 04'21	
min. Earth dist.	4842 Jul 16 21:13	25° $\overline{\text{B}}$ 35'41	4.33905 AU		4848 Jun 17 05:31	0° $\overline{\text{B}}$	
direct	4842 Sep 15 13:21	20° $\overline{\text{B}}$ 47'58		evening set	4848 Jul 15 07:41	6° $\overline{\text{B}}$ 18'17	
	4842 Dec 08 10:43	0° \approx					
desc. node	4843 Jan 08 23:51	6° \approx 34'43		conjunction	4848 Jul 29 01:14	9° $\overline{\text{B}}$ 28'46	0°00'-26
evening set	4843 Jan 19 02:02	8° \approx 49'50		minimum elong	4848 Jul 29 01:12	9° $\overline{\text{B}}$ 28'45	0°00'27
max. Earth dist.	4843 Jan 29 16:43	11° \approx 13'59	6.26860 AU	behind sun begin	4848 Jul 28 16:50	9° $\overline{\text{B}}$ 23'56	
				behind sun end	4848 Jul 29 09:35	9° $\overline{\text{B}}$ 23'35	
conjunction	4843 Jan 31 19:08	11° \approx 42'39	0°-1'-54	max. Earth dist.	4848 Jul 31 09:47	10° $\overline{\text{B}}$ 01'30	6.10300 AU
minimum elong	4843 Jan 31 19:09	11° \approx 42'39	0°01'54	asc. node	4848 Aug 03 01:30	10° $\overline{\text{B}}$ 38'23	
behind sun begin	4843 Jan 31 11:10	11° \approx 38'09		morning rise	4848 Aug 11 19:32	12° $\overline{\text{B}}$ 39'21	
behind sun end	4843 Feb 01 03:07	11° \approx 47'10			4848 Aug 22 02:53	15° $\overline{\text{B}}$	
morning rise	4843 Feb 13 11:23	14° \approx 35'21			4848 Nov 14 06:26	0° $\overline{\text{H}}$	
	4843 Feb 15 07:04	15° \approx		retrograde	4848 Dec 17 07:55	1° $\overline{\text{H}}$ 43'56	
	4843 May 05 23:53	0° H			4849 Jan 19 01:49	30° $\overline{\text{R}}$ $\overline{\text{B}}$	
retrograde	4843 Jun 18 09:04	2° H 48'29		opposition	4849 Feb 14 23:41	26° $\overline{\text{B}}$ 40'21	0°24'34

min. Earth dist.	4849 Feb 13 16:06	26°♌51'02	4.17969 AU	direct	4854 Sep 20 00:44	25°♎15'24	
direct	4849 Apr 15 08:03	21°♌40'14			4854 Nov 16 23:58	0°♊	
	4849 Jul 02 02:11	0°♎		desc. node	4854 Nov 19 07:00	0°♊21'11	
evening set	4849 Aug 19 22:47	10°♎11'02		evening set	4855 Jan 23 11:19	13°♊21'54	
					4855 Jan 30 16:04	15°♊	
conjunction	4849 Sep 02 13:47	13°♎13'32	0°31'45	max. Earth dist.	4855 Feb 03 01:42	15°♊46'33	6.24914 AU
minimum elong	4849 Sep 02 13:46	13°♎13'31	0°31'45				
max. Earth dist.	4849 Sep 04 05:01	13°♎35'27	6.25785 AU	conjunction	4855 Feb 05 04:25	16°♊15'30	0°-6'-23
morning rise	4849 Sep 16 04:10	16°♎15'23		minimum elong	4855 Feb 05 04:24	16°♊15'29	0°06'25
	4849 Nov 26 03:37	0°♏		behind sun begin	4855 Feb 04 20:52	16°♊11'13	
retrograde	4850 Jan 18 05:09	4°♏10'50		behind sun end	4855 Feb 05 11:55	16°♊19'46	
	4850 Mar 12 23:35	30°♎		morning rise	4855 Feb 17 20:55	19°♊09'04	
min. Earth dist.	4850 Mar 18 11:46	29°♎16'11	4.32940 AU		4855 Apr 10 12:10	0°♋	
opposition	4850 Mar 19 05:28	29°♎10'17	1°04'09	retrograde	4855 Jun 23 04:21	7°♋31'13	
direct	4850 May 18 21:34	24°♎08'28		opposition	4855 Aug 22 22:06	2°♋37'28	0°-32'-59
	4850 Jul 23 02:16	0°♏		min. Earth dist.	4855 Aug 24 05:04	2°♋27'29	4.17057 AU
evening set	4850 Sep 22 11:10	12°♏00'51			4855 Sep 13 09:50	30°♎	
				direct	4855 Oct 22 20:36	27°♊40'25	
conjunction	4850 Oct 05 20:27	14°♏55'23	0°52'38		4855 Nov 30 19:56	0°♋	
minimum elong	4850 Oct 05 20:25	14°♏55'22	0°52'38	evening set	4856 Feb 25 08:41	16°♋29'58	
max. Earth dist.	4850 Oct 06 09:36	15°♏02'33	6.39097 AU	max. Earth dist.	4856 Mar 07 18:28	19°♋11'08	6.09432 AU
morning rise	4850 Oct 19 03:33	17°♏48'44					
	4850 Dec 21 08:03	0°♌		conjunction	4856 Mar 09 03:37	19°♋30'43	0°-36'-47
retrograde	4851 Feb 17 15:03	4°♌53'38		minimum elong	4856 Mar 09 03:36	19°♋30'42	0°36'48
opposition	4851 Apr 18 23:46	29°♏56'43	1°23'07	morning rise	4856 Mar 21 23:22	22°♋32'12	
	4851 Apr 18 13:44	30°♎			4856 Apr 23 22:20	0°♌	
min. Earth dist.	4851 Apr 19 00:29	29°♏56'29	4.43721 AU	retrograde	4856 Jul 28 23:09	12°♌06'54	
direct	4851 Jun 19 20:27	24°♏54'24		opposition	4856 Sep 27 05:52	7°♌10'24	-1°-12'-31
	4851 Aug 20 03:21	0°♌		min. Earth dist.	4856 Sep 27 19:53	7°♌05'49	4.02524 AU
evening set	4851 Oct 24 04:30	12°♌22'27		direct	4856 Nov 25 18:34	2°♌15'35	
	4851 Nov 05 09:51	15°♌		evening set	4857 Mar 31 10:03	21°♌46'45	
conjunction	4851 Nov 06 07:05	15°♌11'26	0°58'02	conjunction	4857 Apr 13 10:11	24°♌55'15	0°-55'-32
minimum elong	4851 Nov 06 07:05	15°♌11'26	0°58'02	minimum elong	4857 Apr 13 10:11	24°♌55'14	0°55'33
max. Earth dist.	4851 Nov 05 14:32	15°♌02'31	6.46530 AU	max. Earth dist.	4857 Apr 13 06:49	24°♌53'12	5.97182 AU
morning rise	4851 Nov 19 07:16	17°♌59'10		morning rise	4857 Apr 26 12:37	28°♌05'08	
	4852 Jan 21 08:58	0°♍			4857 May 04 12:43	0°♍	
retrograde	4852 Mar 18 12:59	4°♍40'27			4857 Jul 18 12:33	15°♍	
	4852 May 16 10:55	30°♌		retrograde	4857 Sep 05 06:55	18°♍37'48	
opposition	4852 May 18 04:58	29°♌46'28	1°19'23		4857 Oct 24 17:32	15°♌	
min. Earth dist.	4852 May 19 00:28	29°♌40'11	4.47472 AU	opposition	4857 Nov 04 03:20	13°♍37'39	-1°-26'-22
direct	4852 Jul 19 19:50	24°♌44'24		min. Earth dist.	4857 Nov 03 16:52	13°♍41'09	3.93934 AU
	4852 Sep 20 12:12	0°♍		direct	4858 Jan 01 09:16	8°♍43'47	
evening set	4852 Nov 22 19:23	12°♍06'28			4858 Mar 06 02:28	15°♍	
max. Earth dist.	4852 Dec 04 02:38	14°♍32'49	6.46295 AU	evening set	4858 May 07 10:17	28°♍37'03	
					4858 May 13 03:17	0°♎	
conjunction	4852 Dec 05 16:47	14°♍53'28	0°47'51				
minimum elong	4852 Dec 05 16:49	14°♍53'29	0°47'50	conjunction	4858 May 20 18:07	1°♎51'06	0°-53'-13
morning rise	4852 Dec 18 11:35	17°♍39'23		minimum elong	4858 May 20 18:09	1°♎51'07	0°53'14
	4853 Feb 21 07:01	0°♎		max. Earth dist.	4858 May 22 00:39	2°♎09'40	5.93060 AU
retrograde	4853 Apr 17 22:36	4°♎26'25		morning rise	4858 Jun 03 05:01	5°♎06'45	
	4853 Jun 14 11:13	30°♌		retrograde	4858 Oct 13 12:37	25°♎52'01	
opposition	4853 Jun 17 20:39	29°♍34'03	0°54'52	min. Earth dist.	4858 Dec 10 20:38	20°♎58'37	3.94870 AU
min. Earth dist.	4853 Jun 19 04:52	29°♍23'46	4.43312 AU	opposition	4858 Dec 12 02:16	20°♎48'34	-1°-5'-22
direct	4853 Aug 19 13:01	24°♍33'02		direct	4859 Feb 07 23:04	15°♎53'25	
	4853 Oct 22 02:35	0°♎			4859 May 21 01:21	0°♏	
evening set	4853 Dec 23 05:53	12°♎08'21		evening set	4859 Jun 14 06:18	5°♏37'22	
max. Earth dist.	4854 Jan 02 20:55	14°♎28'51	6.38464 AU				
				conjunction	4859 Jun 27 21:24	8°♏52'01	0°-29'-40
conjunction	4854 Jan 04 23:52	14°♎57'02	0°24'40	minimum elong	4859 Jun 27 21:25	8°♏52'02	0°29'42
minimum elong	4854 Jan 04 23:53	14°♎57'02	0°24'41	max. Earth dist.	4859 Jun 30 04:26	9°♏24'49	5.98936 AU
morning rise	4854 Jan 17 16:09	17°♎45'04		morning rise	4859 Jul 11 14:39	12°♏07'39	
	4854 Mar 20 23:02	0°♏			4859 Oct 12 16:51	0°♏	
retrograde	4854 May 19 23:35	5°♏07'02		retrograde	4859 Nov 19 00:41	2°♏12'20	
opposition	4854 Jul 19 20:50	0°♏14'45	0°14'24		4859 Dec 26 01:45	30°♌	
min. Earth dist.	4854 Jul 21 11:13	0°♏02'30	4.32209 AU	min. Earth dist.	4860 Jan 16 00:03	27°♏20'02	4.04994 AU
	4854 Jul 21 19:04	30°♌		opposition	4860 Jan 17 12:26	27°♏07'39	0°-19'-10

direct	4860 Mar 15 21:15	22°  09'50		opposition	4865 Jun 22 01:53	3°  45'24	0°50'08
	4860 May 28 10:05	0° 		min. Earth dist.	4865 Jun 23 12:52	3°  34'14	4.42329 AU
asc. node	4860 Jun 12 21:24	3°  02'53			4865 Jul 25 12:21	30°  R 	
evening set	4860 Jul 20 10:01	11°  018'31		direct	4865 Aug 23 19:07	28°  A  44'26	
					4865 Sep 22 02:56	0° 	
conjunction	4860 Aug 03 03:25	14°  028'03	0°04'30	evening set	4865 Dec 27 09:04	16°  022'35	
minimum elong	4860 Aug 03 03:24	14°  028'02	0°04'29	max. Earth dist.	4866 Jan 06 22:21	18°  042'36	6.36913 AU
behind sun begin	4860 Aug 02 19:11	14°  023'20					
behind sun end	4860 Aug 03 11:36	14°  032'45		conjunction	4866 Jan 09 02:54	19°  011'46	0°20'46
max. Earth dist.	4860 Aug 05 10:44	14°  059'55	6.12323 AU	minimum elong	4866 Jan 09 02:55	19°  011'46	0°20'47
	4860 Aug 05 10:53	15° 		morning rise	4866 Jan 21 19:00	22°  000'20	
morning rise	4860 Aug 16 21:38	17°  037'37			4866 Feb 28 18:53	0° 	
	4860 Oct 15 12:49	0° 		retrograde	4866 May 24 09:14	9°  ≈29'10	
retrograde	4860 Dec 21 20:37	6°  032'13		opposition	4866 Jul 24 07:27	4°  ≈36'43	0°08'08
min. Earth dist.	4861 Feb 18 07:45	1°  039'25	4.20182 AU	min. Earth dist.	4866 Jul 25 21:24	4°  ≈24'36	4.30171 AU
opposition	4861 Feb 19 14:50	1°  028'55	0°31'05		4866 Sep 08 17:27	30°  R 	
	4861 Mar 02 18:39	30°  R 		direct	4866 Sep 24 07:13	29°  037'33	
direct	4861 Apr 20 03:00	26°  028'30		desc. node	4866 Sep 30 21:48	29°  041'35	
	4861 Jun 07 14:32	0° 			4866 Oct 09 22:50	0° 	
evening set	4861 Aug 24 18:02	14°  0053'00			4867 Jan 15 04:27	15° 	
				evening set	4867 Jan 27 19:13	17°  ≈50'08	
conjunction	4861 Sep 07 08:24	17°  0054'15	0°35'28	max. Earth dist.	4867 Feb 07 10:46	20°  ≈16'13	6.22542 AU
minimum elong	4861 Sep 07 08:22	17°  0054'14	0°35'29				
max. Earth dist.	4861 Sep 08 21:24	18°  0014'50	6.28032 AU	conjunction	4867 Feb 09 12:24	20°  ≈44'42	0°-10'-45
morning rise	4861 Sep 20 21:43	20°  0054'42		minimum elong	4867 Feb 09 12:23	20°  ≈44'42	0°10'45
	4861 Nov 03 15:01	0° 		behind sun begin	4867 Feb 09 06:13	20°  ≈41'10	
retrograde	4862 Jan 22 12:36	8°  040'57		behind sun end	4867 Feb 09 18:34	20°  ≈48'13	
opposition	4862 Mar 23 14:01	3°  040'53	1°08'05	morning rise	4867 Feb 22 05:13	23°  ≈39'23	
min. Earth dist.	4862 Mar 22 22:40	3°  045'59	4.35044 AU		4867 Mar 22 20:36	0° 	
	4862 Apr 23 22:18	30°  R 		retrograde	4867 Jun 28 02:20	12°  012'17	
direct	4862 May 23 11:41	28°  0038'57		opposition	4867 Aug 27 17:20	7°  018'15	0°-39'-12
	4862 Jun 22 09:25	0° 		min. Earth dist.	4867 Aug 29 00:04	7°  008'20	4.14501 AU
evening set	4862 Sep 26 22:57	16°  0025'44		direct	4867 Oct 27 12:15	2°  021'28	
				evening set	4868 Mar 01 00:23	21°  018'54	
conjunction	4862 Oct 10 07:08	19°  0021'08	0°54'18				
minimum elong	4862 Oct 10 07:07	19°  0021'07	0°54'18	conjunction	4868 Mar 13 19:57	24°  021'00	0°-40'-17
max. Earth dist.	4862 Oct 10 15:47	19°  0023'49	6.40886 AU	minimum elong	4868 Mar 13 19:55	24°  020'59	0°40'18
morning rise	4862 Oct 23 13:16	22°  0021'21		max. Earth dist.	4868 Mar 12 13:02	24°  002'39	6.06918 AU
	4862 Nov 30 15:05	0° 		morning rise	4868 Mar 26 16:35	27°  023'58	
retrograde	4863 Feb 21 17:03	9°  0009'59			4868 Apr 06 19:07	0° 	
opposition	4863 Apr 23 03:50	4°  0013'26	1°23'51	retrograde	4868 Aug 03 04:27	17°  010'22	
min. Earth dist.	4863 Apr 23 07:12	4°  0012'20	4.45092 AU	opposition	4868 Oct 02 09:31	12°  013'26	-1°-16'-17
	4863 May 31 23:04	30°  R 		min. Earth dist.	4868 Oct 02 19:49	12°  010'03	4.00308 AU
direct	4863 Jun 24 04:26	29°  0021'00		direct	4868 Nov 30 15:37	7°  018'52	
	4863 Jul 17 16:00	0° 		evening set	4869 Apr 05 11:12	26°  015'02	
	4863 Oct 20 21:43	15° 					
evening set	4863 Oct 28 10:06	16°  0035'39		conjunction	4869 Apr 18 12:21	0°  006'48	0°-56'-33
				minimum elong	4869 Apr 18 12:20	0°  006'48	0°56'34
conjunction	4863 Nov 10 11:57	19°  0023'58	0°57'28		4869 Apr 18 01:09	0° 	
minimum elong	4863 Nov 10 11:57	19°  0023'58	0°57'29	max. Earth dist.	4869 Apr 18 13:40	0°  007'36	5.95477 AU
max. Earth dist.	4863 Nov 09 17:07	19°  0013'50	6.47379 AU	morning rise	4869 May 01 16:01	3°  018'03	
morning rise	4863 Nov 23 11:03	22°  0011'00			4869 Jun 22 19:48	15° 	
	4863 Dec 31 22:15	0° 		retrograde	4869 Sep 10 17:01	23°  0058'04	
retrograde	4864 Mar 22 13:30	8°  0049'57		opposition	4869 Nov 09 11:51	18°  0057'22	-1°-25'-28
opposition	4864 May 22 07:50	3°  0045'14	1°17'07	min. Earth dist.	4869 Nov 08 22:10	19°  0001'57	3.92940 AU
min. Earth dist.	4864 May 23 05:13	3°  0049'22	4.47740 AU		4869 Dec 14 01:12	15°  R 	
	4864 Jun 26 18:26	30°  R 		direct	4870 Jan 06 15:16	14°  0003'27	
direct	4864 Jul 24 00:06	28°  0015'41			4870 Jan 30 03:56	15° 	
	4864 Aug 20 11:30	0° 			4870 Apr 26 00:30	0° 	
evening set	4864 Nov 26 21:58	16°  0041'54		evening set	4870 May 12 18:03	3°  0059'21	
max. Earth dist.	4864 Dec 08 00:29	18°  0043'45	6.45939 AU				
				conjunction	4870 May 26 03:18	7°  0014'08	0°-50'-58
conjunction	4864 Dec 09 18:35	19°  0042'35	0°45'20	minimum elong	4870 May 26 03:20	7°  0014'09	0°50'59
minimum elong	4864 Dec 09 18:36	19°  0042'36	0°45'21	max. Earth dist.	4870 May 27 16:19	7°  0036'37	5.92893 AU
morning rise	4864 Dec 22 12:59	21°  0048'27		morning rise	4870 Jun 08 15:18	10°  0030'23	
	4865 Jan 31 15:03	0° 			4870 Sep 21 05:48	0° 	
retrograde	4865 Apr 22 04:16	8°  0037'42		retrograde	4870 Oct 18 21:37	1°  0014'14	

	4870 Nov 15 07:20	30° RII		evening set	4876 Dec 01 03:28	20° $\text{J}33'08$	
min. Earth dist.	4870 Dec 16 01:40	26° $\text{II}21'11$	3.95548 AU	max. Earth dist.	4876 Dec 12 04:20	22° $\text{J}56'33$	6.45095 AU
opposition	4870 Dec 17 09:18	26° $\text{II}10'26$	0°-59'-50				
direct	4871 Feb 13 06:15	21° $\text{II}15'00$		conjunction	4876 Dec 13 23:44	23° $\text{J}20'09$	0°42'31
	4871 May 01 08:00	0° J		minimum elong	4876 Dec 13 23:45	23° $\text{J}20'09$	0°42'32
evening set	4871 Jun 19 14:58	10° $\text{J}55'52$		morning rise	4876 Dec 26 17:31	26° $\text{J}06'09$	
					4877 Jan 14 01:37	0° J	
conjunction	4871 Jul 03 06:38	14° $\text{J}10'09$	0°-25'-5	retrograde	4877 Apr 26 12:13	12° $\text{J}59'20$	
minimum elong	4871 Jul 03 06:39	14° $\text{J}10'10$	0°25'07	opposition	4877 Jun 26 11:08	8° $\text{J}07'08$	0°44'57
max. Earth dist.	4871 Jul 05 15:14	14° $\text{J}43'44$	6.00361 AU	min. Earth dist.	4877 Jun 27 22:51	7° $\text{J}55'46$	4.40928 AU
morning rise	4871 Jul 17 00:35	17° $\text{J}25'21$		direct	4877 Aug 28 02:28	3° $\text{J}06'25$	
	4871 Sep 13 11:51	0° J		evening set	4877 Dec 31 16:37	20° $\text{J}48'44$	
retrograde	4871 Nov 23 22:37	7° $\text{J}21'11$		max. Earth dist.	4878 Jan 11 04:11	23° $\text{J}08'28$	6.35048 AU
min. Earth dist.	4872 Jan 20 22:50	2° $\text{J}29'15$	4.06975 AU				
opposition	4872 Jan 22 12:24	2° $\text{J}16'27$	0°-11'-42	conjunction	4878 Jan 13 10:06	23° $\text{J}38'32$	0°16'36
	4872 Feb 08 22:04	30° RJ		minimum elong	4878 Jan 13 10:07	23° $\text{J}38'32$	0°16'35
direct	4872 Mar 20 23:43	27° $\text{J}18'12$		morning rise	4878 Jan 26 02:16	26° $\text{J}27'51$	
asc. node	4872 Apr 21 15:57	28° $\text{J}55'59$			4878 Feb 11 06:10	0° J	
	4872 May 01 05:03	0° J		retrograde	4878 May 29 03:15	14° $\text{J}04'51$	
	4872 Jul 19 15:57	15° J		opposition	4878 Jul 28 23:49	9° $\text{J}12'18$	0°01'29
evening set	4872 Jul 25 13:33	16° $\text{J}20'24$		min. Earth dist.	4878 Jul 30 14:19	8° $\text{J}59'59$	4.27941 AU
				desc. node	4878 Aug 10 10:40	7° $\text{J}38'16$	
conjunction	4872 Aug 08 06:49	19° $\text{J}28'47$	0°09'23	direct	4878 Sep 28 21:12	4° $\text{J}13'25$	
minimum elong	4872 Aug 08 06:48	19° $\text{J}28'47$	0°09'22		4878 Dec 28 20:17	15° J	
behind sun begin	4872 Aug 07 23:51	19° $\text{J}24'49$		evening set	4879 Feb 01 08:04	22° $\text{J}32'30$	
behind sun end	4872 Aug 08 13:45	19° $\text{J}32'44$		max. Earth dist.	4879 Feb 12 01:23	25° $\text{J}00'23$	6.20136 AU
max. Earth dist.	4872 Aug 10 12:45	19° $\text{J}59'42$	6.14661 AU				
morning rise	4872 Aug 22 00:32	22° $\text{J}37'04$		conjunction	4879 Feb 14 01:32	25° $\text{J}28'09$	0°-15'-16
	4872 Sep 24 20:07	0° J		minimum elong	4879 Feb 14 01:31	25° $\text{J}28'08$	0°15'17
retrograde	4872 Dec 26 11:51	11° $\text{J}20'38$		behind sun begin	4879 Feb 13 22:42	25° $\text{J}26'31$	
min. Earth dist.	4873 Feb 23 01:39	6° $\text{J}27'23$	4.22606 AU	behind sun end	4879 Feb 14 04:21	25° $\text{J}29'46$	
opposition	4873 Feb 24 06:22	6° $\text{J}17'42$	0°37'26	morning rise	4879 Feb 26 18:41	28° $\text{J}23'59$	
direct	4873 Apr 25 00:23	1° $\text{J}17'00$			4879 Mar 05 18:50	0° J	
evening set	4873 Aug 29 13:40	19° $\text{J}34'45$		retrograde	4879 Jul 03 03:40	17° $\text{J}07'47$	
				opposition	4879 Sep 01 18:00	12° $\text{J}13'28$	0°-45'-30
conjunction	4873 Sep 12 03:15	22° $\text{J}34'42$	0°39'01	min. Earth dist.	4879 Sep 02 21:47	12° $\text{J}04'29$	4.12127 AU
minimum elong	4873 Sep 12 03:13	22° $\text{J}34'41$	0°39'01	direct	4879 Nov 01 06:38	7° $\text{J}17'04$	
max. Earth dist.	4873 Sep 13 13:04	22° $\text{J}53'25$	6.30325 AU	evening set	4880 Mar 05 21:21	26° $\text{J}21'37$	
morning rise	4873 Sep 25 15:38	25° $\text{J}33'47$					
	4873 Oct 16 06:22	0° J		conjunction	4880 Mar 18 17:27	29° $\text{J}24'54$	0°-43'-39
retrograde	4874 Jan 26 18:43	13° $\text{J}11'06$		minimum elong	4880 Mar 18 17:25	29° $\text{J}24'53$	0°43'40
opposition	4874 Mar 27 22:46	8° $\text{J}11'32$	1°11'39	max. Earth dist.	4880 Mar 17 14:29	29° $\text{J}08'49$	6.04797 AU
min. Earth dist.	4874 Mar 27 09:16	8° $\text{J}16'00$	4.37036 AU		4880 Mar 21 04:16	0° J	
direct	4874 May 28 00:13	3° $\text{J}09'29$		morning rise	4880 Mar 31 14:57	2° $\text{J}29'10$	
evening set	4874 Oct 01 11:03	20° $\text{J}51'28$		retrograde	4880 Aug 08 14:15	22° $\text{J}25'38$	
				opposition	4880 Oct 07 17:29	17° $\text{J}28'10$	-1°-19'-37
conjunction	4874 Oct 14 18:18	23° $\text{J}43'53$	0°55'42	min. Earth dist.	4880 Oct 08 00:28	17° $\text{J}25'51$	3.98672 AU
minimum elong	4874 Oct 14 18:17	23° $\text{J}43'52$	0°55'43	direct	4880 Dec 05 19:21	12° $\text{J}33'49$	
max. Earth dist.	4874 Oct 14 22:52	23° $\text{J}46'21$	6.42432 AU		4881 Apr 01 04:09	0° J	
morning rise	4874 Oct 27 23:19	26° $\text{J}35'03$		evening set	4881 Apr 10 15:38	2° $\text{J}16'28$	
	4874 Nov 13 02:23	0° J					
retrograde	4875 Feb 25 21:34	13° $\text{J}28'42$		conjunction	4881 Apr 23 17:59	5° $\text{J}27'11$	0°-57'-11
opposition	4875 Apr 27 09:20	8° $\text{J}32'41$	1°24'12	minimum elong	4881 Apr 23 17:59	5° $\text{J}27'11$	0°57'13
min. Earth dist.	4875 Apr 27 15:52	8° $\text{J}30'33$	4.46101 AU	max. Earth dist.	4881 Apr 24 02:02	5° $\text{J}32'05$	5.94511 AU
direct	4875 Jun 28 13:46	3° $\text{J}30'19$		morning rise	4881 May 06 22:43	8° $\text{J}39'24$	
	4875 Oct 04 05:54	15° J			4881 Jun 02 22:05	15° J	
evening set	4875 Nov 01 17:17	20° $\text{J}52'55$		retrograde	4881 Sep 16 05:10	29° $\text{J}23'06$	
				opposition	4881 Nov 14 21:52	24° $\text{J}21'53$	-1°-23'-51
conjunction	4875 Nov 14 18:12	23° $\text{J}40'46$	0°56'38	min. Earth dist.	4881 Nov 14 05:00	24° $\text{J}27'33$	3.92799 AU
minimum elong	4875 Nov 14 18:13	23° $\text{J}40'46$	0°56'37	direct	4882 Jan 11 23:11	19° $\text{J}27'55$	
max. Earth dist.	4875 Nov 13 18:15	23° $\text{J}27'53$	6.47765 AU		4882 Apr 07 06:14	0° J	
morning rise	4875 Nov 27 16:38	26° $\text{J}27'23$		evening set	4882 May 18 02:24	9° $\text{J}22'53$	
	4875 Dec 14 12:39	0° J					
retrograde	4876 Mar 26 18:36	13° $\text{J}05'49$		conjunction	4882 May 31 12:30	12° $\text{J}37'48$	0°-48'-21
opposition	4876 May 26 13:28	8° $\text{J}12'24$	1°14'25	minimum elong	4882 May 31 12:32	12° $\text{J}37'49$	0°48'22
min. Earth dist.	4876 May 27 13:33	8° $\text{J}04'40$	4.47502 AU	max. Earth dist.	4882 Jun 02 04:50	13° $\text{J}02'13$	5.93564 AU
direct	4876 Jul 28 07:11	3° $\text{J}10'28$		morning rise	4882 Jun 14 01:41	15° $\text{J}54'12$	

	4882 Aug 18 06:23	0°♄		min. Earth dist.	4888 May 31 21:27	12°♂18'17	4.46803 AU
retrograde	4882 Oct 24 01:11	6°♄32'54		direct	4888 Aug 01 13:27	7°♂25'01	
min. Earth dist.	4882 Dec 21 04:02	1°♄40'23	3.96961 AU	evening set	4888 Dec 05 08:58	24°♂50'09	
opposition	4882 Dec 22 14:18	1°♄28'44	0°-53'-56	max. Earth dist.	4888 Dec 16 05:47	27°♂11'54	6.43838 AU
	4883 Jan 02 15:46	30°♄II					
direct	4883 Feb 18 11:39	26°♄32'53		conjunction	4888 Dec 18 04:39	27°♂37'27	0°39'30
	4883 Apr 05 19:11	0°♄		minimum elong	4888 Dec 18 04:40	27°♂37'28	0°39'31
evening set	4883 Jun 24 21:11	16°♄08'08			4888 Dec 29 02:17	0°♄	
				morning rise	4888 Dec 30 22:14	0°♄23'51	
conjunction	4883 Jul 08 13:22	19°♄21'42	0°-20'-27	retrograde	4889 Apr 30 23:33	17°♄22'24	
minimum elong	4883 Jul 08 13:23	19°♄21'43	0°20'28	opposition	4889 Jun 30 21:46	12°♄30'15	0°39'32
max. Earth dist.	4883 Jul 10 22:57	19°♄55'43	6.02368 AU	min. Earth dist.	4889 Jul 02 10:31	12°♄18'32	4.39193 AU
morning rise	4883 Jul 22 07:28	22°♄35'59		direct	4889 Sep 01 11:25	7°♄29'45	
	4883 Aug 24 02:47	0°♄		evening set	4890 Jan 05 01:14	25°♄17'10	
retrograde	4883 Nov 28 18:41	12°♄21'07		max. Earth dist.	4890 Jan 15 13:56	27°♄38'09	6.32983 AU
min. Earth dist.	4884 Jan 25 20:33	7°♄28'44	4.09326 AU				
opposition	4884 Jan 27 08:41	7°♄16'27	0°-4'-27	conjunction	4890 Jan 17 18:44	28°♄07'43	0°12'18
asc. node	4884 Mar 01 20:38	3°♄16'17		minimum elong	4890 Jan 17 18:45	28°♄07'44	0°12'19
direct	4884 Mar 26 01:09	2°♄17'45		behind sun begin	4890 Jan 17 13:24	28°♄04'45	
	4884 Jul 02 10:01	15°♄		behind sun end	4890 Jan 18 00:06	28°♄10'43	
evening set	4884 Jul 30 13:01	21°♄12'29			4890 Jan 26 03:07	0°♄	
				morning rise	4890 Jan 30 10:45	0°♄57'52	
conjunction	4884 Aug 13 06:01	24°♄19'38	0°14'01		4890 Apr 13 10:46	15°♄	
minimum elong	4884 Aug 13 06:00	24°♄19'37	0°14'01	retrograde	4890 Jun 02 21:14	18°♄43'37	
behind sun begin	4884 Aug 13 02:02	24°♄17'22		desc. node	4890 Jun 20 02:14	18°♄16'05	
behind sun end	4884 Aug 13 09:58	24°♄21'52			4890 Jul 24 15:43	15°♄	
max. Earth dist.	4884 Aug 15 10:36	24°♄49'34	6.17139 AU	opposition	4890 Aug 02 17:42	13°♄50'57	0°-5'-13
morning rise	4884 Aug 26 23:09	27°♄26'31		min. Earth dist.	4890 Aug 04 06:48	13°♄39'05	4.25691 AU
	4884 Sep 07 09:40	0°♄		direct	4890 Oct 03 10:21	8°♄52'29	
retrograde	4884 Dec 30 21:12	15°♄59'07			4890 Dec 08 10:39	15°♄	
opposition	4885 Feb 28 17:58	10°♄56'35	0°43'16	evening set	4891 Feb 05 22:43	27°♄18'03	
min. Earth dist.	4885 Feb 27 14:25	11°♄05'51	4.24989 AU	max. Earth dist.	4891 Feb 16 17:59	29°♄47'52	6.17885 AU
direct	4885 Apr 29 15:52	5°♄55'37			4891 Feb 17 14:54	0°♄	
evening set	4885 Sep 03 05:12	24°♄07'00		conjunction	4891 Feb 18 16:14	0°♄14'41	0°-19'-44
				minimum elong	4891 Feb 18 16:13	0°♄14'40	0°19'45
conjunction	4885 Sep 16 17:52	27°♄05'42	0°42'11	morning rise	4891 Mar 03 09:54	3°♄11'39	
minimum elong	4885 Sep 16 17:50	27°♄05'41	0°42'11	retrograde	4891 Jul 08 07:51	22°♄05'47	
max. Earth dist.	4885 Sep 17 22:24	27°♄21'26	6.32420 AU	opposition	4891 Sep 06 20:06	17°♄11'05	0°-51'-30
	4885 Sep 29 22:54	0°♄		min. Earth dist.	4891 Sep 07 21:22	17°♄02'53	4.10051 AU
morning rise	4885 Sep 30 05:17	0°♄03'29		direct	4891 Nov 06 04:20	12°♄15'02	
retrograde	4886 Jan 31 00:41	17°♄33'03		evening set	4892 Mar 04 18:23	0°♄	
opposition	4886 Apr 01 04:43	12°♄34'01	1°14'43		4892 Mar 10 18:50	1°♄25'23	
min. Earth dist.	4886 Mar 31 19:06	12°♄37'11	4.38702 AU	conjunction	4892 Mar 23 15:42	4°♄29'43	0°-46'-41
direct	4886 Jun 01 11:27	7°♄31'50		minimum elong	4892 Mar 23 15:41	4°♄29'42	0°46'41
evening set	4886 Oct 05 20:12	25°♄10'06		max. Earth dist.	4892 Mar 22 18:15	4°♄16'52	6.03091 AU
				morning rise	4892 Apr 05 13:54	7°♄35'05	
conjunction	4886 Oct 19 02:36	28°♄01'43	0°56'46	retrograde	4892 Aug 13 23:15	27°♄39'37	
minimum elong	4886 Oct 19 02:35	28°♄01'42	0°56'47	opposition	4892 Oct 13 00:58	22°♄41'42	-1°-22'-16
max. Earth dist.	4886 Oct 19 02:55	28°♄01'53	6.43542 AU	min. Earth dist.	4892 Oct 13 04:39	22°♄40'29	3.97524 AU
	4886 Oct 28 05:44	0°♄		direct	4892 Dec 10 22:24	17°♄47'36	
morning rise	4886 Nov 01 06:37	0°♄52'04			4893 Mar 14 11:01	0°♄	
	4887 Jan 18 11:40	15°♄		evening set	4893 Apr 15 19:28	7°♄32'54	
retrograde	4887 Mar 01 23:33	17°♄42'16					
	4887 Apr 13 17:50	15°♄		conjunction	4893 Apr 28 22:37	10°♄44'18	0°-57'-20
opposition	4887 May 01 12:58	12°♄46'40	1°24'08	minimum elong	4893 Apr 28 22:37	10°♄44'18	0°57'21
min. Earth dist.	4887 May 01 21:48	12°♄43'48	4.46622 AU	max. Earth dist.	4893 Apr 29 10:16	10°♄51'23	5.94000 AU
direct	4887 Jul 02 19:01	7°♄44'18		morning rise	4893 May 12 04:37	13°♄57'17	
	4887 Sep 15 17:14	15°♄			4893 May 16 12:47	15°♄	
evening set	4887 Nov 05 22:57	25°♄06'25		retrograde	4893 Jul 27 14:45	0°♄	
					4893 Sep 21 12:07	4°♄42'40	
conjunction	4887 Nov 18 23:12	27°♄54'01	0°55'30	min. Earth dist.	4893 Nov 17 20:32	30°♄	
minimum elong	4887 Nov 18 23:12	27°♄54'01	0°55'31	opposition	4893 Nov 19 08:35	29°♄47'52	3.92997 AU
max. Earth dist.	4887 Nov 17 20:29	27°♄39'38	6.47667 AU	direct	4893 Nov 20 05:06	29°♄40'58	-1°-21'-31
	4887 Nov 28 17:22	0°♄			4894 Jan 17 04:34	24°♄46'50	
morning rise	4887 Dec 01 20:49	0°♄40'24			4894 Mar 15 17:15	0°♄	
retrograde	4888 Mar 30 23:36	17°♄19'52					
opposition	4888 May 30 18:57	12°♄26'46	1°11'24				

evening set	4894 May 23 08:31	14° Π 40'08		conjunction	4899 Nov 23 05:23	2° \mathcal{Z} 11'50	0°54'04
				minimum elong	4899 Nov 23 05:24	2° \mathcal{Z} 11'50	0°54'05
conjunction	4894 Jun 05 19:43	17° Π 55'06	0°-45'-22	morning rise	4899 Dec 06 02:21	4° \mathcal{Z} 58'04	
minimum elong	4894 Jun 05 19:45	17° Π 55'07	0°45'24	retrograde	4900 Apr 05 06:07	21° \mathcal{Z} 38'59	
max. Earth dist.	4894 Jun 07 15:57	18° Π 21'50	5.94450 AU	opposition	4900 Jun 05 02:16	16° \mathcal{Z} 46'05	1°07'57
morning rise	4894 Jun 19 09:41	21° Π 11'28		min. Earth dist.	4900 Jun 06 05:42	16° \mathcal{Z} 37'19	4.46065 AU
	4894 Jul 27 21:05	0° \mathfrak{D}		direct	4900 Aug 06 19:55	11° \mathcal{Z} 44'30	
retrograde	4894 Oct 29 03:40	11° \mathfrak{D} 44'30		evening set	4900 Dec 10 15:54	29° \mathcal{Z} 11'57	
min. Earth dist.	4894 Dec 26 05:56	6° \mathfrak{D} 51'48	3.98415 AU		4900 Dec 14 08:22	0° \mathfrak{C}	
opposition	4894 Dec 27 16:15	6° \mathfrak{D} 40'07	0°-47'-42	max. Earth dist.	4900 Dec 21 12:27	1° \mathfrak{C} 33'56	6.42692 AU
direct	4895 Feb 23 16:08	1° \mathfrak{D} 43'56					
evening set	4895 Jun 30 00:45	21° \mathfrak{D} 13'58		conjunction	4900 Dec 23 11:13	1° \mathfrak{C} 59'32	0°36'13
				minimum elong	4900 Dec 23 11:14	1° \mathfrak{C} 59'32	0°36'13
conjunction	4895 Jul 13 17:24	24° \mathfrak{D} 26'51	0°-15'-44	morning rise	4901 Jan 05 04:19	4° \mathfrak{C} 46'13	
minimum elong	4895 Jul 13 17:25	24° \mathfrak{D} 26'52	0°15'46	retrograde	4901 May 06 11:36	21° \mathfrak{C} 49'36	
behind sun begin	4895 Jul 13 16:41	24° \mathfrak{D} 26'26		opposition	4901 Jul 06 09:53	16° \mathfrak{C} 57'30	0°33'48
behind sun end	4895 Jul 13 18:10	24° \mathfrak{D} 27'18		min. Earth dist.	4901 Jul 07 23:03	16° \mathfrak{C} 45'40	4.37722 AU
max. Earth dist.	4895 Jul 16 04:07	25° \mathfrak{D} 01'20	6.04247 AU	direct	4901 Sep 06 21:40	11° \mathfrak{C} 57'19	
morning rise	4895 Jul 27 11:44	27° \mathfrak{D} 40'20		evening set	4902 Jan 10 10:43	29° \mathfrak{C} 48'35	
	4895 Aug 06 13:34	0° Ω			4902 Jan 11 07:10	0° \approx	
	4895 Oct 26 14:44	15° Ω		max. Earth dist.	4902 Jan 20 22:42	2° \approx 09'48	6.31307 AU
retrograde	4895 Dec 03 11:41	17° Ω 15'41					
	4896 Jan 10 03:24	15° \mathcal{R} Ω		conjunction	4902 Jan 23 03:55	2° \approx 39'44	0°07'56
asc. node	4896 Jan 11 06:40	14° Ω 52'16		minimum elong	4902 Jan 23 03:55	2° \approx 39'44	0°07'57
min. Earth dist.	4896 Jan 30 14:27	12° Ω 23'29	4.11430 AU	behind sun begin	4902 Jan 22 20:46	2° \approx 35'44	
opposition	4896 Feb 01 02:32	12° Ω 11'14	0°02'41	behind sun end	4902 Jan 23 11:03	2° \approx 43'43	
direct	4896 Mar 30 21:49	7° Ω 12'13		morning rise	4902 Feb 04 20:06	5° \approx 30'34	
	4896 Jun 13 00:14	15° Ω			4902 Mar 22 00:18	15° \approx	
evening set	4896 Aug 04 10:53	26° Ω 00'52		desc. node	4902 May 01 05:16	21° \approx 10'07	
				retrograde	4902 Jun 08 16:36	23° \approx 23'45	
conjunction	4896 Aug 18 03:24	29° Ω 06'52	0°18'31	opposition	4902 Aug 08 12:17	18° \approx 30'50	0°-11'-53
minimum elong	4896 Aug 18 03:23	29° Ω 06'51	0°18'31	min. Earth dist.	4902 Aug 09 23:49	18° \approx 19'26	4.23921 AU
max. Earth dist.	4896 Aug 20 03:45	29° Ω 34'17	6.19282 AU		4902 Sep 08 00:37	15° \mathcal{R} \approx	
	4896 Aug 22 01:09	0° \mathfrak{P}		direct	4902 Oct 09 01:18	13° \approx 32'39	
morning rise	4896 Aug 31 20:04	2° \mathfrak{P} 12'34			4902 Nov 08 22:27	15° \approx	
retrograde	4897 Jan 04 07:59	20° \mathfrak{P} 35'51			4903 Feb 02 14:15	0° \mathcal{H}	
min. Earth dist.	4897 Mar 04 04:13	15° \mathfrak{P} 41'58	4.26981 AU	evening set	4903 Feb 11 12:33	2° \mathcal{H} 02'41	
opposition	4897 Mar 05 04:41	15° \mathfrak{P} 33'45	0°48'49	max. Earth dist.	4903 Feb 22 12:16	4° \mathcal{H} 35'36	6.16184 AU
direct	4897 May 04 07:52	10° \mathfrak{P} 32'30					
evening set	4897 Sep 07 20:16	28° \mathfrak{P} 39'02		conjunction	4903 Feb 24 06:24	5° \mathcal{H} 00'07	0°-23'-59
	4897 Sep 14 00:12	0° \mathfrak{A}		minimum elong	4903 Feb 24 06:22	5° \mathcal{H} 00'06	0°24'01
				morning rise	4903 Mar 09 00:15	7° \mathcal{H} 57'54	
conjunction	4897 Sep 21 08:20	1° \mathfrak{A} 36'44	0°45'06	retrograde	4903 Jul 14 08:59	27° \mathcal{H} 00'11	
minimum elong	4897 Sep 21 08:18	1° \mathfrak{A} 36'43	0°45'07	opposition	4903 Sep 12 20:37	22° \mathcal{H} 05'06	0°-56'-59
max. Earth dist.	4897 Sep 22 10:07	1° \mathfrak{A} 50'54	6.34118 AU	min. Earth dist.	4903 Sep 13 19:28	21° \mathcal{H} 57'41	4.08569 AU
morning rise	4897 Oct 04 18:41	4° \mathfrak{A} 33'25		direct	4903 Nov 12 00:18	17° \mathcal{H} 09'23	
retrograde	4898 Feb 04 05:08	21° \mathfrak{A} 56'34			4904 Feb 17 22:27	0° \mathcal{Y}	
opposition	4898 Apr 05 10:52	16° \mathfrak{A} 58'03	1°17'22	evening set	4904 Mar 16 14:25	6° \mathcal{Y} 23'19	
min. Earth dist.	4898 Apr 05 03:03	17° \mathfrak{A} 00'38	4.40003 AU				
direct	4898 Jun 05 19:58	11° \mathfrak{A} 55'48		conjunction	4904 Mar 29 11:41	9° \mathcal{Y} 28'22	0°-49'-16
evening set	4898 Oct 10 06:00	29° \mathfrak{A} 31'29		minimum elong	4904 Mar 29 11:40	9° \mathcal{Y} 28'21	0°49'18
	4898 Oct 12 11:11	0° \mathcal{M}		max. Earth dist.	4904 Mar 28 17:04	9° \mathcal{Y} 17'12	6.01949 AU
				morning rise	4904 Apr 11 10:50	12° \mathcal{Y} 34'37	
conjunction	4898 Oct 23 11:26	2° \mathcal{M} 22'25	0°57'31		4904 Jul 08 21:04	0° \mathcal{B}	
minimum elong	4898 Oct 23 11:25	2° \mathcal{M} 22'25	0°57'31	retrograde	4904 Aug 20 02:34	2° \mathcal{B} 44'53	
max. Earth dist.	4898 Oct 23 06:53	2° \mathcal{M} 19'58	6.44353 AU		4904 Oct 01 17:25	30° \mathcal{R} \mathcal{Y}	
morning rise	4898 Nov 05 14:36	5° \mathcal{M} 12'07		opposition	4904 Oct 19 04:35	27° \mathcal{Y} 46'24	-1°-24'-8
	4898 Dec 24 20:49	15° \mathcal{M}		min. Earth dist.	4904 Oct 19 04:25	27° \mathcal{Y} 46'27	3.96852 AU
retrograde	4899 Mar 06 05:16	21° \mathcal{M} 59'49		direct	4904 Dec 16 22:40	22° \mathcal{Y} 52'21	
opposition	4899 May 05 18:19	17° \mathcal{M} 04'40	1°23'37		4905 Feb 23 14:57	0° \mathcal{B}	
min. Earth dist.	4899 May 06 06:32	17° \mathcal{M} 00'43	4.46913 AU	evening set	4905 Apr 21 19:18	12° \mathcal{B} 38'42	
	4899 May 22 07:41	15° \mathcal{R} \mathcal{M}			4905 May 01 12:18	15° \mathcal{B}	
direct	4899 Jul 07 03:22	12° \mathcal{M} 02'21					
	4899 Aug 22 01:40	15° \mathcal{M}		conjunction	4905 May 04 23:34	15° \mathcal{B} 50'38	0°-57'00
evening set	4899 Nov 10 05:48	29° \mathcal{M} 24'23		minimum elong	4905 May 04 23:34	15° \mathcal{B} 50'39	0°57'01
	4899 Nov 13 00:20	0° \mathcal{Z}		max. Earth dist.	4905 May 05 16:28	16° \mathcal{B} 00'56	5.93866 AU
max. Earth dist.	4899 Nov 21 23:22	1° \mathcal{Z} 55'39	6.47417 AU	morning rise	4905 May 18 06:27	19° \mathcal{B} 04'08	

	4905 Jul 05 12:46	0°♂		min. Earth dist.	4911 May 11 12:09	21°♂16'14	4.47111 AU
retrograde	4905 Sep 27 16:07	9°♂49'43		direct	4911 Jul 12 08:39	16°♂18'19	
min. Earth dist.	4905 Nov 25 09:57	4°♂54'53	3.93421 AU		4911 Oct 29 01:00	0°♂	
opposition	4905 Nov 26 07:35	4°♂47'35	-1°-18'-36	evening set	4911 Nov 15 11:50	3°♂40'18	
	4906 Jan 15 05:39	30°♂		max. Earth dist.	4911 Nov 27 02:01	6°♂09'56	6.47182 AU
direct	4906 Jan 23 06:49	29°♂53'15					
	4906 Jan 31 07:27	0°♂		conjunction	4911 Nov 28 10:38	6°♂27'33	0°52'19
evening set	4906 May 29 09:50	19°♂44'15		minimum elong	4911 Nov 28 10:39	6°♂27'33	0°52'20
				morning rise	4911 Dec 11 06:59	9°♂13'39	
conjunction	4906 Jun 11 21:57	22°♂59'14	0°-42'-9	retrograde	4912 Apr 09 13:20	25°♂55'52	
minimum elong	4906 Jun 11 21:59	22°♂59'15	0°42'11	opposition	4912 Jun 09 09:03	21°♂03'11	1°04'07
max. Earth dist.	4906 Jun 13 20:50	23°♂27'28	5.95378 AU	min. Earth dist.	4912 Jun 10 14:47	20°♂53'41	4.45385 AU
morning rise	4906 Jun 25 12:49	26°♂15'32		direct	4912 Aug 11 03:39	16°♂01'45	
	4906 Jul 11 09:52	0°♂			4912 Nov 28 10:45	0°♂	
retrograde	4906 Nov 04 00:31	16°♂42'51		evening set	4912 Dec 14 21:24	3°♂31'04	
min. Earth dist.	4907 Jan 01 01:39	11°♂50'27	3.99758 AU	max. Earth dist.	4912 Dec 25 15:21	5°♂52'03	6.41585 AU
opposition	4907 Jan 02 13:04	11°♂38'24	0°-41'-26				
direct	4907 Mar 01 13:35	6°♂41'52		conjunction	4912 Dec 27 16:17	6°♂18'53	0°32'45
evening set	4907 Jul 06 00:05	26°♂07'35		minimum elong	4912 Dec 27 16:18	6°♂18'54	0°32'45
				morning rise	4913 Jan 09 09:09	9°♂05'55	
conjunction	4907 Jul 19 16:58	29°♂19'52	0°-11'-8	retrograde	4913 May 10 22:20	26°♂14'09	
minimum elong	4907 Jul 19 16:59	29°♂19'52	0°11'10	opposition	4913 Jul 10 21:00	21°♂21'59	0°27'54
behind sun begin	4907 Jul 19 10:51	29°♂16'18		min. Earth dist.	4913 Jul 12 09:55	21°♂10'12	4.36225 AU
behind sun end	4907 Jul 19 23:07	29°♂23'27		direct	4913 Sep 11 05:42	16°♂22'00	
max. Earth dist.	4907 Jul 22 01:34	29°♂52'59	6.05872 AU		4913 Dec 26 05:27	0°♂	
	4907 Jul 22 13:34	0°♂		evening set	4914 Jan 14 18:48	4°♂17'19	
morning rise	4907 Aug 02 11:34	2°♂32'40		max. Earth dist.	4914 Jan 25 08:35	6°♂40'05	6.29520 AU
	4907 Sep 30 08:32	15°♂					
asc. node	4907 Nov 24 13:47	21°♂38'52		conjunction	4914 Jan 27 12:00	7°♂09'07	0°03'32
retrograde	4907 Dec 09 01:38	21°♂59'42		minimum elong	4914 Jan 27 12:00	7°♂09'07	0°03'33
min. Earth dist.	4908 Feb 05 06:14	17°♂07'07	4.13167 AU	behind sun begin	4914 Jan 27 04:06	7°♂04'41	
opposition	4908 Feb 06 16:32	16°♂55'28	0°09'29	behind sun end	4914 Jan 27 19:54	7°♂13'34	
	4908 Feb 21 06:36	15°♂		morning rise	4914 Feb 09 04:04	10°♂00'40	
direct	4908 Apr 05 15:57	11°♂56'06			4914 Mar 03 20:44	15°♂	
	4908 May 20 03:10	15°♂		desc. node	4914 Mar 11 10:36	16°♂35'23	
	4908 Aug 07 05:31	0°♂		retrograde	4914 Jun 13 11:18	28°♂01'54	
evening set	4908 Aug 10 05:17	0°♂40'14		opposition	4914 Aug 13 05:45	23°♂08'47	0°-18'-31
				min. Earth dist.	4914 Aug 14 16:59	22°♂57'29	4.21937 AU
conjunction	4908 Aug 23 21:41	3°♂45'23	0°22'43	direct	4914 Oct 13 15:10	18°♂10'57	
minimum elong	4908 Aug 23 21:39	3°♂45'22	0°22'42		4915 Jan 16 18:18	0°♂	
max. Earth dist.	4908 Aug 25 20:45	4°♂11'58	6.21011 AU	evening set	4915 Feb 16 02:05	6°♂46'36	
morning rise	4908 Sep 06 13:39	6°♂50'03		max. Earth dist.	4915 Feb 27 02:48	9°♂20'50	6.14157 AU
retrograde	4909 Jan 09 15:55	25°♂05'44					
opposition	4909 Mar 10 13:09	20°♂04'09	0°53'50	conjunction	4915 Feb 28 20:04	9°♂44'58	0°-28'-8
min. Earth dist.	4909 Mar 09 14:13	20°♂11'49	4.28569 AU	minimum elong	4915 Feb 28 20:03	9°♂44'57	0°28'08
direct	4909 May 09 19:18	15°♂02'47		morning rise	4915 Mar 13 14:35	12°♂43'51	
	4909 Aug 30 00:11	0°♂			4915 Jun 13 23:57	0°♂	
evening set	4909 Sep 13 09:23	3°♂05'48		retrograde	4915 Jul 19 09:48	1°♂55'50	
					4915 Aug 24 01:01	30°♂	
conjunction	4909 Sep 26 20:30	6°♂02'37	0°47'39	opposition	4915 Sep 17 21:05	27°♂00'18	-1°-2'-11
minimum elong	4909 Sep 26 20:29	6°♂02'36	0°47'40	min. Earth dist.	4915 Sep 18 16:46	26°♂53'53	4.06663 AU
max. Earth dist.	4909 Sep 27 17:18	6°♂14'01	6.35444 AU	direct	4915 Nov 16 19:40	22°♂04'51	
morning rise	4909 Oct 10 06:08	8°♂58'26			4916 Jan 29 18:18	0°♂	
retrograde	4910 Feb 09 10:35	26°♂16'35		evening set	4916 Mar 21 10:46	11°♂24'18	
opposition	4910 Apr 10 16:17	21°♂18'33	1°19'30				
min. Earth dist.	4910 Apr 10 11:34	21°♂20'06	4.41003 AU	conjunction	4916 Apr 03 08:57	14°♂30'27	0°-51'-34
direct	4910 Jun 11 05:07	16°♂16'15		minimum elong	4916 Apr 03 08:55	14°♂30'26	0°51'36
	4910 Sep 27 09:30	0°♂		max. Earth dist.	4916 Apr 02 19:43	14°♂22'29	6.00349 AU
evening set	4910 Oct 15 14:34	3°♂50'04		morning rise	4916 Apr 16 08:52	17°♂37'47	
					4916 Jun 11 14:32	0°♂	
conjunction	4910 Oct 28 19:20	6°♂40'28	0°57'55	retrograde	4916 Aug 25 11:06	7°♂55'46	
minimum elong	4910 Oct 28 19:20	6°♂40'28	0°57'55	opposition	4916 Oct 24 10:04	2°♂56'47	-1°-25'-28
max. Earth dist.	4910 Oct 28 12:50	6°♂36'58	6.44961 AU	min. Earth dist.	4916 Oct 24 07:50	2°♂57'32	3.95727 AU
morning rise	4910 Nov 10 21:28	9°♂29'35			4916 Nov 17 06:41	30°♂	
	4910 Dec 07 08:11	15°♂		direct	4916 Dec 22 01:16	28°♂02'49	
retrograde	4911 Mar 11 08:11	26°♂15'18			4917 Jan 25 09:45	0°♂	
opposition	4911 May 10 22:53	21°♂20'32	1°22'37		4917 Apr 14 22:55	15°♂	

evening set	4917 Apr 26 22:11	17°♄52'07		morning rise	4922 Nov 15 03:18	13°♌44'15	
					4922 Nov 21 01:38	15°♌	
conjunction	4917 May 10 03:30	21°♄04'50	0°-56'-14		4923 Feb 26 16:52	0°♈	
minimum elong	4917 May 10 03:31	21°♄04'51	0°56'16	retrograde	4923 Mar 15 10:58	0°♈26'17	
max. Earth dist.	4917 May 11 00:22	21°♄17'32	5.93320 AU		4923 Apr 01 02:20	30°♌	
morning rise	4917 May 23 11:42	24°♄19'09		opposition	4923 May 15 02:16	25°♌31'48	1°21'13
	4917 Jun 16 13:18	0°♈		min. Earth dist.	4923 May 15 18:49	25°♌26'27	4.47787 AU
retrograde	4917 Oct 02 21:41	15°♈06'08		direct	4923 Jul 16 15:28	20°♌29'33	
min. Earth dist.	4917 Nov 30 11:58	10°♈11'58	3.93544 AU		4923 Oct 12 02:46	0°♈	
opposition	4917 Dec 01 12:48	10°♈03'35	-1°-15'-3	evening set	4923 Nov 19 15:09	7°♈49'53	
direct	4918 Jan 28 09:31	5°♈09'04		max. Earth dist.	4923 Dec 01 02:16	10°♈17'53	6.47268 AU
evening set	4918 Jun 03 15:40	24°♈59'04					
				conjunction	4923 Dec 02 13:22	10°♈36'49	0°50'22
conjunction	4918 Jun 17 04:41	28°♈14'07	0°-38'-31	minimum elong	4923 Dec 02 13:24	10°♈36'50	0°50'22
minimum elong	4918 Jun 17 04:43	28°♈14'08	0°38'32	morning rise	4923 Dec 15 08:56	13°♈22'37	
max. Earth dist.	4918 Jun 19 05:05	28°♈43'13	5.96149 AU		4924 Apr 06 01:18	0°♈	
	4918 Jun 24 13:04	0°♈		retrograde	4924 Apr 13 15:19	0°♈05'24	
morning rise	4918 Jun 30 20:30	1°♈30'27			4924 Apr 21 05:16	30°♌	
retrograde	4918 Nov 09 01:05	21°♈52'14		opposition	4924 Jun 13 13:04	25°♈12'49	1°00'04
min. Earth dist.	4919 Jan 06 01:40	16°♈59'51	4.01077 AU	min. Earth dist.	4924 Jun 14 19:50	25°♈03'00	4.44872 AU
opposition	4919 Jan 07 13:35	16°♈47'36	0°-34'-38	direct	4924 Aug 15 06:36	20°♈11'28	
direct	4919 Mar 06 16:49	11°♈50'40			4924 Nov 11 20:01	0°♈	
	4919 Jul 05 23:03	0°♈		evening set	4924 Dec 19 00:06	7°♈42'20	
evening set	4919 Jul 11 03:39	1°♈12'00		max. Earth dist.	4924 Dec 29 16:07	10°♈02'38	6.40492 AU
conjunction	4919 Jul 24 21:00	4°♈23'37	0°-6'-16	conjunction	4924 Dec 31 18:31	10°♈30'23	0°29'12
minimum elong	4919 Jul 24 21:01	4°♈23'38	0°06'17	minimum elong	4924 Dec 31 18:33	10°♈30'24	0°29'14
behind sun begin	4919 Jul 24 13:06	4°♈19'03		morning rise	4925 Jan 13 11:05	13°♈17'43	
behind sun end	4919 Jul 25 04:56	4°♈28'13			4925 Apr 26 23:45	0°♈	
max. Earth dist.	4919 Jul 27 07:11	4°♈57'31	6.07649 AU	retrograde	4925 May 15 07:55	0°♈31'04	
morning rise	4919 Aug 07 15:29	7°♈35'34			4925 Jun 02 14:06	30°♌	
	4919 Sep 09 23:11	15°♈		opposition	4925 Jul 15 05:26	25°♈38'52	0°21'59
asc. node	4919 Oct 04 10:01	19°♈47'25		min. Earth dist.	4925 Jul 16 20:21	25°♈26'27	4.34583 AU
retrograde	4919 Dec 13 19:09	26°♈53'12		direct	4925 Sep 15 13:04	20°♈39'04	
min. Earth dist.	4920 Feb 10 00:19	22°♈00'39	4.15225 AU		4925 Dec 09 05:31	0°♈	
opposition	4920 Feb 11 10:01	21°♈49'14	0°16'29	evening set	4926 Jan 19 00:25	8°♈39'11	
direct	4920 Apr 10 12:53	16°♈49'35		desc. node	4926 Jan 21 04:56	9°♈08'45	
	4920 Jul 21 03:18	0°♈		max. Earth dist.	4926 Jan 29 12:35	11°♈01'43	6.27439 AU
evening set	4920 Aug 15 03:12	5°♈27'44					
				conjunction	4926 Jan 31 17:33	11°♈31'47	0°00'-52
conjunction	4920 Aug 28 18:54	8°♈31'40	0°26'56	minimum elong	4926 Jan 31 17:34	11°♈31'47	0°00'53
minimum elong	4920 Aug 28 18:52	8°♈31'39	0°26'55	behind sun begin	4926 Jan 31 09:35	11°♈27'17	
max. Earth dist.	4920 Aug 30 14:45	8°♈56'19	6.23192 AU	behind sun end	4926 Feb 01 01:32	11°♈36'17	
morning rise	4920 Sep 11 10:17	11°♈35'05		morning rise	4926 Feb 13 09:56	14°♈24'16	
retrograde	4921 Jan 14 00:26	29°♈41'13			4926 Feb 16 01:20	15°♈	
opposition	4921 Mar 14 23:40	24°♈40'01	0°58'41		4926 May 07 15:56	0°♈	
min. Earth dist.	4921 Mar 14 02:37	24°♈47'03	4.30711 AU	retrograde	4926 Jun 18 03:12	2°♈34'57	
direct	4921 May 14 10:31	19°♈38'25			4926 Jul 30 03:39	30°♌	
	4921 Aug 12 11:23	0°♈		opposition	4926 Aug 17 21:30	27°♈41'34	0°-24'-55
evening set	4921 Sep 17 23:46	7°♈35'43		min. Earth dist.	4926 Aug 19 07:13	27°♈30'43	4.19546 AU
				direct	4926 Oct 18 01:32	22°♈43'59	
conjunction	4921 Oct 01 10:08	10°♈31'23	0°50'00		4926 Dec 28 22:53	0°♈	
minimum elong	4921 Oct 01 10:06	10°♈31'22	0°50'01	evening set	4927 Feb 20 14:23	11°♈27'00	
max. Earth dist.	4921 Oct 02 04:55	10°♈41'38	6.37406 AU	max. Earth dist.	4927 Mar 03 18:53	14°♈04'16	6.11659 AU
morning rise	4921 Oct 14 18:29	13°♈25'54					
	4922 Jan 24 21:29	0°♌		conjunction	4927 Mar 05 08:53	14°♈26'36	0°-32'-1
retrograde	4922 Feb 13 13:55	0°♌36'44		minimum elong	4927 Mar 05 08:52	14°♈26'35	0°32'02
	4922 Mar 05 03:46	30°♌		morning rise	4927 Mar 18 03:54	17°♈26'49	
opposition	4922 Apr 14 21:42	25°♈39'09	1°21'14		4927 May 16 03:25	0°♈	
min. Earth dist.	4922 Apr 14 18:46	25°♈40'06	4.42652 AU	retrograde	4927 Jul 24 13:37	6°♈50'35	
direct	4922 Jun 15 14:24	20°♈36'49		opposition	4927 Sep 22 21:36	1°♈54'42	-1°-6'-57
	4922 Sep 09 23:16	0°♌		min. Earth dist.	4927 Sep 23 15:57	1°♈48'43	4.04269 AU
evening set	4922 Oct 19 22:20	8°♌06'25			4927 Oct 07 22:13	30°♌	
				direct	4927 Nov 21 15:56	26°♈59'31	
conjunction	4922 Nov 02 01:59	10°♌55'57	0°58'02		4928 Jan 04 07:44	0°♈	
minimum elong	4922 Nov 02 01:59	10°♌55'57	0°58'02	evening set	4928 Mar 26 08:15	16°♈26'37	
max. Earth dist.	4922 Nov 01 14:23	10°♌49'42	6.46159 AU				

conjunction	4928 Apr 08 07:20	19° Υ 34'08	0°-53'-29	max. Earth dist.	4933 Oct 06 13:21	15° Ω 09'04	6.39235 AU
minimum elong	4928 Apr 08 07:19	19° Υ 34'07	0°53'30	morning rise	4933 Oct 19 06:57	17° Ω 54'56	
max. Earth dist.	4928 Apr 07 21:27	19° Υ 28'10	5.98281 AU		4933 Dec 20 20:20	0° \mathcal{M}	
morning rise	4928 Apr 21 08:30	22° Υ 42'58		retrograde	4934 Feb 17 18:31	4° \mathcal{M} 59'26	
	4928 May 22 17:05	0° \mathcal{B}		opposition	4934 Apr 19 04:08	0° \mathcal{M} 02'18	1°22'33
retrograde	4928 Aug 30 19:29	13° \mathcal{B} 10'20		min. Earth dist.	4934 Apr 19 04:08	0° \mathcal{M} 02'18	4.44011 AU
opposition	4928 Oct 29 16:51	8° \mathcal{B} 10'53	-1°-26'-9		4934 Apr 19 11:10	30° \mathcal{R} Ω	
min. Earth dist.	4928 Oct 29 10:23	8° \mathcal{B} 13'03	3.94240 AU	direct	4934 Jun 20 00:44	24° Ω 59'55	
direct	4928 Dec 27 02:21	3° \mathcal{B} 17'01			4934 Aug 19 16:59	0° \mathcal{M}	
	4929 Mar 28 00:24	15° \mathcal{B}		evening set	4934 Oct 24 06:53	12° \mathcal{M} 26'28	
evening set	4929 May 02 03:45	23° \mathcal{B} 10'55			4934 Nov 05 05:14	15° \mathcal{M}	
conjunction	4929 May 15 10:17	26° \mathcal{B} 24'36	0°-55'00	conjunction	4934 Nov 06 09:47	15° \mathcal{M} 15'22	0°57'51
minimum elong	4929 May 15 10:18	26° \mathcal{B} 24'36	0°55'02	minimum elong	4934 Nov 06 09:48	15° \mathcal{M} 15'22	0°57'52
max. Earth dist.	4929 May 16 11:47	26° \mathcal{B} 40'08	5.92558 AU	max. Earth dist.	4934 Nov 05 19:30	15° \mathcal{M} 07'40	6.46953 AU
morning rise	4929 May 28 19:49	29° \mathcal{B} 39'52		morning rise	4934 Nov 19 10:00	18° \mathcal{M} 02'58	
	4929 May 30 05:10	0° \mathcal{H}			4935 Jan 21 04:04	0° \mathcal{A}	
retrograde	4929 Oct 08 06:36	20° \mathcal{H} 28'52		retrograde	4935 Mar 19 14:11	4° \mathcal{A} 42'53	
opposition	4929 Dec 06 20:37	15° \mathcal{H} 25'52	-1°-10'-47		4935 May 17 20:35	30° \mathcal{R} \mathcal{M}	
min. Earth dist.	4929 Dec 05 17:15	15° \mathcal{H} 35'08	3.93594 AU	opposition	4935 May 19 07:30	29° \mathcal{M} 48'46	1°19'25
direct	4930 Feb 02 17:06	10° \mathcal{H} 31'06		min. Earth dist.	4935 May 20 02:07	29° \mathcal{M} 42'47	4.47979 AU
	4930 Jun 07 14:21	0° \mathcal{E}		direct	4935 Jul 20 22:08	24° \mathcal{M} 46'39	
evening set	4930 Jun 09 00:16	0° \mathcal{E} 20'12			4935 Sep 21 09:48	0° \mathcal{A}	
				evening set	4935 Nov 23 21:07	12° \mathcal{A} 06'57	
conjunction	4930 Jun 22 14:24	3° \mathcal{E} 35'20	0°-34'-29	max. Earth dist.	4935 Dec 05 03:16	14° \mathcal{A} 32'34	6.46837 AU
minimum elong	4930 Jun 22 14:26	3° \mathcal{E} 35'21	0°34'31				
max. Earth dist.	4930 Jun 24 19:49	4° \mathcal{E} 07'19	5.97012 AU	conjunction	4935 Dec 06 18:31	14° \mathcal{A} 53'47	0°48'07
morning rise	4930 Jul 06 06:53	6° \mathcal{E} 51'33		minimum elong	4935 Dec 06 18:33	14° \mathcal{A} 53'48	0°48'07
retrograde	4930 Nov 14 04:45	27° \mathcal{E} 06'55		morning rise	4935 Dec 19 13:39	17° \mathcal{A} 39'34	
min. Earth dist.	4931 Jan 11 03:24	22° \mathcal{E} 14'43	4.02629 AU		4936 Feb 22 11:32	0° \mathcal{E}	
opposition	4931 Jan 12 16:11	22° \mathcal{E} 02'11	0°-27'-27	retrograde	4936 Apr 18 00:03	4° \mathcal{E} 24'44	
direct	4931 Mar 11 21:28	17° \mathcal{E} 04'52			4936 Jun 14 06:11	30° \mathcal{R} \mathcal{A}	
	4931 Jun 18 03:46	0° \mathcal{Q}		opposition	4936 Jun 17 21:10	29° \mathcal{A} 32'17	0°55'34
evening set	4931 Jul 16 09:27	6° \mathcal{Q} 20'47		min. Earth dist.	4936 Jun 19 06:41	29° \mathcal{A} 21'35	4.43836 AU
				direct	4936 Aug 19 15:34	24° \mathcal{A} 31'04	
conjunction	4931 Jul 30 02:47	9° \mathcal{Q} 31'29	0°-1'-15		4936 Oct 22 09:29	0° \mathcal{E}	
minimum elong	4931 Jul 30 02:45	9° \mathcal{Q} 31'28	0°01'16	evening set	4936 Dec 23 06:34	12° \mathcal{E} 04'59	
behind sun begin	4931 Jul 29 18:21	9° \mathcal{Q} 26'38		max. Earth dist.	4937 Jan 02 20:58	14° \mathcal{E} 24'55	6.38924 AU
behind sun end	4931 Jul 30 11:09	9° \mathcal{Q} 36'19					
max. Earth dist.	4931 Aug 01 12:07	10° \mathcal{Q} 04'43	6.09705 AU	conjunction	4937 Jan 05 00:48	14° \mathcal{E} 53'32	0°25'22
morning rise	4931 Aug 12 21:16	12° \mathcal{Q} 42'23		minimum elong	4937 Jan 05 00:49	14° \mathcal{E} 53'33	0°25'23
asc. node	4931 Aug 13 03:35	12° \mathcal{Q} 46'01		morning rise	4937 Jan 17 17:07	17° \mathcal{E} 41'25	
	4931 Aug 22 22:47	15° \mathcal{Q}			4937 Mar 21 11:36	0° \approx	
	4931 Nov 14 13:32	0° \mathcal{P}		retrograde	4937 May 19 20:44	5° \approx 01'33	
retrograde	4931 Dec 18 10:52	1° \mathcal{P} 49'23		opposition	4937 Jul 19 19:16	0° \approx 09'14	0°15'40
	4932 Jan 21 03:18	30° \mathcal{R} \mathcal{Q}		min. Earth dist.	4937 Jul 21 09:32	29° \mathcal{E} 57'01	4.32575 AU
min. Earth dist.	4932 Feb 14 19:01	26° \mathcal{Q} 56'52	4.17544 AU		4937 Jul 21 00:12	30° \mathcal{R} \mathcal{E}	
opposition	4932 Feb 16 04:13	26° \mathcal{Q} 45'37	0°23'24	direct	4937 Sep 19 22:57	25° \mathcal{E} 09'41	
direct	4932 Apr 15 11:06	21° \mathcal{Q} 45'34			4937 Nov 17 15:00	0° \approx	
	4932 Jul 01 17:07	0° \mathcal{P}		desc. node	4937 Nov 30 16:28	2° \approx 09'03	
evening set	4932 Aug 20 01:34	10° \mathcal{P} 16'57		evening set	4938 Jan 23 11:28	13° \approx 15'37	
					4938 Jan 31 03:25	15° \approx	
conjunction	4932 Sep 02 16:44	13° \mathcal{P} 19'36	0°31'00	max. Earth dist.	4938 Feb 03 01:05	15° \approx 39'43	6.25149 AU
minimum elong	4932 Sep 02 16:42	13° \mathcal{P} 19'35	0°31'00				
max. Earth dist.	4932 Sep 04 10:14	13° \mathcal{P} 42'49	6.25562 AU	conjunction	4938 Feb 05 04:38	16° \approx 09'08	0°-5'-27
morning rise	4932 Sep 16 07:07	16° \mathcal{P} 21'34		minimum elong	4938 Feb 05 04:37	16° \approx 09'07	0°05'27
	4932 Nov 25 12:52	0° Ω		behind sun begin	4938 Feb 04 20:55	16° \approx 04'45	
retrograde	4933 Jan 18 10:29	4° Ω 17'53		behind sun end	4938 Feb 05 12:18	16° \approx 13'29	
	4933 Mar 14 01:36	30° \mathcal{R} \mathcal{P}		morning rise	4938 Feb 17 21:09	19° \approx 02'37	
opposition	4933 Mar 19 10:40	29° \mathcal{P} 17'10	1°03'11		4938 Apr 11 03:21	0° \mathcal{H}	
min. Earth dist.	4933 Mar 18 16:11	29° \mathcal{P} 23'20	4.32907 AU	retrograde	4938 Jun 23 03:31	7° \mathcal{H} 23'30	
direct	4933 May 19 02:54	24° \mathcal{P} 15'26		opposition	4938 Aug 22 19:36	2° \mathcal{H} 29'53	0°-31'-33
	4933 Jul 22 13:19	0° Ω		min. Earth dist.	4938 Aug 24 04:51	2° \mathcal{H} 19'10	4.17125 AU
evening set	4933 Sep 22 14:15	12° Ω 07'03			4938 Sep 12 03:23	30° \mathcal{R} \approx	
				direct	4938 Oct 22 20:18	27° \approx 32'37	
conjunction	4933 Oct 05 23:32	15° Ω 01'34	0°52'06		4938 Dec 01 21:23	0° \mathcal{H}	
minimum elong	4933 Oct 05 23:31	15° Ω 01'33	0°52'05	evening set	4939 Feb 25 08:42	16° \mathcal{H} 22'48	

max. Earth dist.	4939 Mar 08 16:00	19° κ 02'33	6.09329 AU	conjunction	4944 Sep 07 10:20	17° η 56'58	0°34'43
				minimum elong	4944 Sep 07 10:18	17° η 56'57	0°34'44
conjunction	4939 Mar 10 03:40	19° κ 23'37	0°-35'-55	max. Earth dist.	4944 Sep 09 00:20	18° η 18'06	6.27886 AU
minimum elong	4939 Mar 10 03:39	19° κ 23'36	0°35'56	morning rise	4944 Sep 20 23:51	20° η 57'34	
morning rise	4939 Mar 22 23:27	22° κ 25'09			4944 Nov 03 10:46	0° ε	
	4939 Apr 25 11:14	0° γ		retrograde	4945 Jan 22 15:26	8° ε 44'47	
retrograde	4939 Jul 29 20:43	11° γ 59'45		opposition	4945 Mar 23 18:09	3° ε 44'35	1°07'10
opposition	4939 Sep 28 03:40	7° γ 03'26	-1°-11'-28	min. Earth dist.	4945 Mar 23 01:42	3° ε 50'03	4.34896 AU
min. Earth dist.	4939 Sep 28 17:52	6° γ 58'47	4.02278 AU		4945 Apr 24 19:04	30° κ η	
direct	4939 Nov 26 15:38	2° γ 08'34		direct	4945 May 23 14:13	28° η 42'42	
evening set	4940 Mar 31 10:44	21° γ 41'28			4945 Jun 21 19:02	0° ε	
				evening set	4945 Sep 27 01:27	16° ε 29'39	
conjunction	4940 Apr 13 10:42	24° γ 50'03	0°-55'-4	conjunction	4945 Oct 10 09:51	19° ε 23'11	0°53'50
minimum elong	4940 Apr 13 10:41	24° γ 50'02	0°55'05	minimum elong	4945 Oct 10 09:50	19° ε 23'10	0°53'50
max. Earth dist.	4940 Apr 13 06:13	24° γ 47'20	5.96834 AU	max. Earth dist.	4945 Oct 10 19:15	19° ε 28'17	6.40749 AU
morning rise	4940 Apr 26 12:57	28° γ 00'02		morning rise	4945 Oct 23 16:09	22° ε 15'32	
	4940 May 04 21:31	0° κ			4945 Nov 30 08:59	0° κ	
	4940 Jul 19 00:33	15° κ		retrograde	4946 Feb 21 22:02	9° κ 15'03	
retrograde	4940 Sep 05 07:05	18° κ 33'54		opposition	4946 Apr 23 08:17	4° κ 18'28	1°23'26
	4940 Oct 24 05:31	15° κ κ		min. Earth dist.	4946 Apr 23 11:37	4° κ 17'23	4.44966 AU
opposition	4940 Nov 04 03:12	13° κ 33'52	-1°-26'-7		4946 Jun 02 08:58	30° κ ε	
min. Earth dist.	4940 Nov 03 17:24	13° κ 37'08	3.93524 AU	direct	4946 Jun 24 08:37	29° ε 16'07	
direct	4941 Jan 01 10:14	8° κ 40'01			4946 Jul 16 12:25	0° κ	
	4941 Mar 06 10:33	15° κ			4946 Oct 20 14:50	15° κ	
evening set	4941 May 07 11:41	28° κ 35'02		evening set	4946 Oct 28 13:25	16° κ 41'02	
	4941 May 13 07:52	0° π					
conjunction	4941 May 20 19:29	1° π 49'13	0°-53'-19	conjunction	4946 Nov 10 15:26	19° κ 29'30	0°57'23
minimum elong	4941 May 20 19:30	1° π 49'14	0°53'20	minimum elong	4946 Nov 10 15:27	19° κ 29'30	0°57'23
max. Earth dist.	4941 May 22 03:33	2° π 08'44	5.92662 AU	max. Earth dist.	4946 Nov 09 19:49	19° κ 18'57	6.47268 AU
morning rise	4941 Jun 03 06:02	5° π 04'56		morning rise	4946 Nov 23 14:59	22° κ 16'44	
retrograde	4941 Oct 13 15:32	25° π 51'38			4946 Dec 31 13:43	0° κ	
min. Earth dist.	4941 Dec 10 22:35	20° π 58'17	3.94527 AU	retrograde	4947 Mar 23 18:38	8° κ 56'18	
opposition	4941 Dec 12 04:13	20° π 48'14	-1°-5'-56	opposition	4947 May 23 12:12	4° κ 02'31	1°17'16
direct	4942 Feb 08 00:48	15° π 53'12		min. Earth dist.	4947 May 24 09:35	3° κ 55'39	4.47665 AU
	4942 May 21 02:41	0° ε			4947 Jun 29 06:52	30° κ κ	
evening set	4942 Jun 14 08:19	5° ε 38'00		direct	4947 Jul 25 04:09	29° κ 00'29	
					4947 Aug 20 06:06	0° κ	
conjunction	4942 Jun 27 22:59	8° ε 52'39	0°-30'-15	evening set	4947 Nov 28 02:12	16° κ 22'23	
minimum elong	4942 Jun 27 23:01	8° ε 52'40	0°30'17	max. Earth dist.	4947 Dec 09 06:41	18° κ 47'25	6.45920 AU
max. Earth dist.	4942 Jun 30 05:35	9° ε 25'13	5.98649 AU				
morning rise	4942 Jul 11 16:13	12° ε 08'21		conjunction	4947 Dec 10 23:15	19° κ 09'24	0°45'38
	4942 Oct 12 13:00	0° κ		minimum elong	4947 Dec 10 23:16	19° κ 09'25	0°45'38
retrograde	4942 Nov 19 02:05	2° κ 14'11		morning rise	4947 Dec 23 17:43	21° κ 55'21	
	4942 Dec 26 11:13	30° κ ε			4948 Feb 01 05:13	0° ε	
min. Earth dist.	4943 Jan 16 01:55	27° ε 22'14	4.04775 AU	retrograde	4948 Apr 22 07:34	8° ε 44'37	
opposition	4943 Jan 17 15:42	27° ε 09'22	0°-20'-15	opposition	4948 Jun 22 05:44	3° ε 52'20	0°50'48
direct	4943 Mar 16 23:32	22° ε 11'36		min. Earth dist.	4948 Jun 23 15:57	3° ε 41'26	4.42383 AU
	4943 May 29 08:36	0° κ			4948 Jul 27 02:18	30° κ κ	
asc. node	4943 Jun 23 04:15	5° κ 00'52		direct	4948 Aug 23 22:16	28° κ 51'24	
evening set	4943 Jul 21 11:44	11° κ 20'20			4948 Sep 20 20:36	0° ε	
				evening set	4948 Dec 27 14:05	16° ε 29'46	
conjunction	4943 Aug 04 05:04	14° κ 29'52	0°03'42	max. Earth dist.	4949 Jan 07 02:48	18° ε 49'28	6.37042 AU
minimum elong	4943 Aug 04 05:02	14° κ 29'52	0°03'41				
behind sun begin	4943 Aug 03 20:45	14° κ 25'06		conjunction	4949 Jan 09 07:56	19° ε 18'57	0°21'23
behind sun end	4943 Aug 04 13:20	14° κ 34'37		minimum elong	4949 Jan 09 07:57	19° ε 18'57	0°21'23
	4943 Aug 06 09:19	15° κ		morning rise	4949 Jan 22 00:16	22° ε 07'33	
max. Earth dist.	4943 Aug 06 13:08	15° κ 02'12	6.12159 AU		4949 Feb 28 09:38	0° ≈	
morning rise	4943 Aug 17 23:07	17° κ 39'28		retrograde	4949 May 24 14:03	9° ≈ 35'40	
	4943 Oct 16 09:27	0° η		opposition	4949 Jul 24 10:55	4° ≈ 43'18	0°09'11
retrograde	4943 Dec 23 01:14	6° η 35'05		min. Earth dist.	4949 Jul 26 01:41	4° ≈ 30'55	4.30378 AU
opposition	4944 Feb 20 18:54	1° η 31'38	0°29'54		4949 Sep 11 08:43	30° κ κ	
min. Earth dist.	4944 Feb 19 12:06	1° η 42'03	4.20041 AU	direct	4949 Sep 24 12:19	29° ε 44'04	
	4944 Mar 03 06:55	30° κ κ			4949 Oct 07 14:47	0° ≈	
direct	4944 Apr 20 07:20	26° κ 31'18		desc. node	4949 Oct 10 07:26	0° ≈ 07'08	
	4944 Jun 07 09:06	0° η			4950 Jan 14 21:47	15° ≈	
evening set	4944 Aug 24 19:54	14° η 55'38		evening set	4950 Jan 27 23:58	17° ≈ 56'22	

max. Earth dist.	4950 Feb 07 15:24	20° \approx 22'17	6.22823 AU	conjunction	4955 Aug 09 05:02	19° Ω 23'24	0°08'26
				minimum elong	4955 Aug 09 05:01	19° Ω 23'23	0°08'25
conjunction	4950 Feb 09 17:19	20° \approx 50'54	0°-9'-59	behind sun begin	4955 Aug 08 21:43	19° Ω 19'13	
minimum elong	4950 Feb 09 17:19	20° \approx 50'54	0°09'59	behind sun end	4955 Aug 09 12:19	19° Ω 27'33	
behind sun begin	4950 Feb 09 10:49	20° \approx 47'11		max. Earth dist.	4955 Aug 11 11:56	19° Ω 54'51	6.14349 AU
behind sun end	4950 Feb 09 23:49	20° \approx 54'36		morning rise	4955 Aug 22 22:45	22° Ω 31'49	
morning rise	4950 Feb 22 10:07	23° \approx 45'29			4955 Sep 26 03:49	0° \mp	
	4950 Mar 22 14:27	0° \times		retrograde	4955 Dec 27 12:07	11° \mp 17'17	
retrograde	4950 Jun 28 03:33	12° \times 16'44		min. Earth dist.	4956 Feb 24 01:49	6° \mp 24'16	4.22195 AU
opposition	4950 Aug 27 19:31	7° \times 22'50	0°-38'-2	opposition	4956 Feb 25 07:39	6° \mp 14'13	0°36'06
min. Earth dist.	4950 Aug 29 01:38	7° \times 13'07	4.14866 AU	direct	4956 Apr 24 23:41	1° \mp 13'35	
direct	4950 Oct 27 14:15	2° \times 26'01		evening set	4956 Aug 29 13:10	19° \mp 32'16	
evening set	4951 Mar 02 04:24	21° \times 22'38					
				conjunction	4956 Sep 12 02:50	22° \mp 32'28	0°38'13
conjunction	4951 Mar 14 23:47	24° \times 24'30	0°-39'-34	minimum elong	4956 Sep 12 02:48	22° \mp 32'27	0°38'12
minimum elong	4951 Mar 14 23:45	24° \times 24'29	0°39'35	max. Earth dist.	4956 Sep 13 11:58	22° \mp 50'50	6.29837 AU
max. Earth dist.	4951 Mar 13 16:22	24° \times 05'51	6.07330 AU	morning rise	4956 Sep 25 15:30	25° \mp 31'52	
morning rise	4951 Mar 27 20:16	27° \times 27'12			4956 Oct 16 09:20	0° $\underline{\Delta}$	
	4951 Apr 07 17:28	0° Υ		retrograde	4957 Jan 26 23:11	13° $\underline{\Delta}$ 11'28	
retrograde	4951 Aug 04 05:24	17° Υ 11'22		opposition	4957 Mar 28 01:36	8° $\underline{\Delta}$ 11'45	1°10'45
opposition	4951 Oct 03 10:30	12° Υ 14'32	-1°-15'-25	min. Earth dist.	4957 Mar 27 12:46	8° $\underline{\Delta}$ 16'00	4.36501 AU
min. Earth dist.	4951 Oct 03 21:38	12° Υ 10'52	4.00728 AU	direct	4957 May 28 02:49	3° $\underline{\Delta}$ 09'42	
direct	4951 Dec 01 18:36	7° Υ 19'54		evening set	4957 Oct 01 12:26	20° $\underline{\Delta}$ 53'03	
evening set	4952 Apr 05 13:16	26° Υ 56'46					
				conjunction	4957 Oct 14 20:03	23° $\underline{\Delta}$ 45'48	0°55'15
conjunction	4952 Apr 18 14:17	0° 8 06'14	0°-56'-12	minimum elong	4957 Oct 14 20:02	23° $\underline{\Delta}$ 45'47	0°55'16
minimum elong	4952 Apr 18 14:16	0° 8 06'14	0°56'14	max. Earth dist.	4957 Oct 15 01:33	23° $\underline{\Delta}$ 48'46	6.41884 AU
	4952 Apr 18 04:00	0° 8		morning rise	4957 Oct 28 01:23	26° $\underline{\Delta}$ 37'20	
max. Earth dist.	4952 Apr 18 15:54	0° 8 07'13	5.95879 AU		4957 Nov 12 23:44	0° \mathbb{M}	
morning rise	4952 May 01 17:31	3° 8 17'08		retrograde	4958 Feb 26 01:26	13° \mathbb{M} 33'03	
	4952 Jun 23 00:26	15° 8		opposition	4958 Apr 27 13:22	8° \mathbb{M} 36'52	1°23'52
retrograde	4952 Sep 10 17:16	23° 8 55'01		min. Earth dist.	4958 Apr 27 18:46	8° \mathbb{M} 35'07	4.45589 AU
opposition	4952 Nov 09 11:51	18° 8 54'29	-1°-25'-20	direct	4958 Jun 28 15:33	3° \mathbb{M} 34'29	
min. Earth dist.	4952 Nov 08 22:55	18° 8 58'48	3.93293 AU		4958 Oct 03 22:36	15° \mathbb{M}	
	4952 Dec 13 11:22	15° \mathbb{R} 8		evening set	4958 Nov 01 20:49	20° \mathbb{M} 58'32	
direct	4953 Jan 06 16:15	14° 8 00'37					
	4953 Jan 30 19:39	15° 8		conjunction	4958 Nov 14 22:07	23° \mathbb{M} 46'41	0°56'35
	4953 Apr 26 07:29	0° \mathbb{I}		minimum elong	4958 Nov 14 22:07	23° \mathbb{M} 46'41	0°56'35
evening set	4953 May 12 18:11	3° \mathbb{I} 55'10		max. Earth dist.	4958 Nov 13 23:51	23° \mathbb{M} 34'42	6.47345 AU
				morning rise	4958 Nov 27 20:48	26° \mathbb{M} 33'35	
conjunction	4953 May 26 02:52	7° \mathbb{I} 09'36	0°-51'-12		4958 Dec 14 04:34	0° 7	
minimum elong	4953 May 26 02:53	7° \mathbb{I} 09'37	0°51'13	retrograde	4959 Mar 28 00:15	13° 7 13'22	
max. Earth dist.	4953 May 27 13:46	7° \mathbb{I} 30'47	5.93140 AU	opposition	4959 May 27 18:25	8° 7 19'56	1°14'39
morning rise	4953 Jun 08 14:39	10° \mathbb{I} 25'35		min. Earth dist.	4959 May 28 18:05	8° 7 12'21	4.47208 AU
	4953 Sep 22 06:52	0° 8		direct	4959 Jul 29 11:39	3° 7 18'03	
retrograde	4953 Oct 18 19:11	1° 8 08'33		evening set	4959 Dec 02 08:53	20° 7 41'41	
	4953 Nov 14 04:08	30° \mathbb{R} \mathbb{I}		max. Earth dist.	4959 Dec 13 09:22	23° 7 04'59	6.44967 AU
min. Earth dist.	4953 Dec 16 00:44	26° \mathbb{I} 15'41	3.95665 AU				
opposition	4953 Dec 17 08:48	26° \mathbb{I} 04'47	-1°00'-37	conjunction	4959 Dec 15 05:17	23° 7 28'51	0°42'51
direct	4954 Feb 13 05:26	21° \mathbb{I} 09'24		minimum elong	4959 Dec 15 05:18	23° 7 28'52	0°42'52
	4954 May 01 19:19	0° 8		morning rise	4959 Dec 27 23:30	26° 7 15'03	
evening set	4954 Jun 19 13:30	10° 8 49'38			4960 Jan 14 14:22	0° 8	
				retrograde	4960 Apr 26 18:28	13° 8 08'23	
conjunction	4954 Jul 03 04:56	14° 8 03'48	0°-25'-51	opposition	4960 Jun 26 16:19	8° 8 16'12	0°45'40
minimum elong	4954 Jul 03 04:57	14° 8 03'49	0°25'52	min. Earth dist.	4960 Jun 28 03:30	8° 8 04'59	4.41011 AU
max. Earth dist.	4954 Jul 05 13:09	14° 8 37'12	6.00338 AU	direct	4960 Aug 28 07:45	3° 8 15'28	
morning rise	4954 Jul 16 22:29	17° 8 18'50		evening set	4960 Dec 31 22:33	20° 8 57'39	
	4954 Sep 13 23:34	0° Ω		max. Earth dist.	4961 Jan 11 12:27	23° 8 18'31	6.35381 AU
retrograde	4954 Nov 23 23:14	7° Ω 15'30					
min. Earth dist.	4955 Jan 21 00:09	2° Ω 23'10	4.06804 AU	conjunction	4961 Jan 13 16:20	23° 8 47'24	0°17'14
opposition	4955 Jan 22 12:40	2° Ω 10'43	0°-13'-3	minimum elong	4961 Jan 13 16:21	23° 8 47'25	0°17'14
	4955 Feb 08 03:14	30° \mathbb{R} 8		morning rise	4961 Jan 26 08:26	26° 8 36'37	
direct	4955 Mar 22 00:48	27° 8 12'34			4961 Feb 10 20:27	0° \approx	
	4955 May 02 22:37	0° Ω		retrograde	4961 May 29 06:14	14° \approx 11'51	
asc. node	4955 May 03 10:39	0° Ω 03'48		opposition	4961 Jul 29 03:44	9° \approx 19'22	0°02'36
	4955 Jul 21 00:05	15° Ω		min. Earth dist.	4961 Jul 30 17:03	9° \approx 07'27	4.28549 AU
evening set	4955 Jul 26 11:49	16° Ω 14'54		desc. node	4961 Aug 20 02:44	6° \approx 39'47	

direct	4961 Sep 29 01:10	4° \approx 20'33		conjunction	4967 Aug 14 01:06	24° Ω 07'02	0°12'54
	4961 Dec 28 13:21	15° \approx		minimum elong	4967 Aug 14 01:05	24° Ω 07'01	0°12'55
evening set	4962 Feb 01 13:01	22° \approx 37'40		behind sun begin	4967 Aug 13 20:07	24° Ω 04'12	
max. Earth dist.	4962 Feb 12 06:09	25° \approx 05'13	6.20982 AU	behind sun end	4967 Aug 14 06:02	24° Ω 09'50	
				max. Earth dist.	4967 Aug 16 04:11	24° Ω 36'11	6.16185 AU
conjunction	4962 Feb 14 06:17	25° \approx 32'56	0°-14'-26	morning rise	4967 Aug 27 18:32	27° Ω 14'28	
minimum elong	4962 Feb 14 06:16	25° \approx 32'56	0°14'27		4967 Sep 09 02:08	0° $\mathring{\text{M}}$	
behind sun begin	4962 Feb 14 02:29	25° \approx 30'45		retrograde	4967 Dec 31 22:40	15° $\mathring{\text{M}}$ 51'40	
behind sun end	4962 Feb 14 10:03	25° \approx 35'06		opposition	4968 Feb 29 17:38	10° $\mathring{\text{M}}$ 49'03	0°41'50
morning rise	4962 Feb 26 23:26	28° \approx 28'23		min. Earth dist.	4968 Feb 28 14:41	10° $\mathring{\text{M}}$ 58'08	4.23932 AU
	4962 Mar 05 16:08	0° $\mathring{\text{H}}$		direct	4968 Apr 29 14:33	5° $\mathring{\text{M}}$ 48'10	
retrograde	4962 Jul 03 04:42	17° $\mathring{\text{H}}$ 08'14		evening set	4968 Sep 03 03:46	24° $\mathring{\text{M}}$ 02'52	
opposition	4962 Sep 01 19:01	12° $\mathring{\text{H}}$ 13'58	0°-44'-10				
min. Earth dist.	4962 Sep 02 23:04	12° $\mathring{\text{H}}$ 04'54	4.13145 AU	conjunction	4968 Sep 16 16:56	27° $\mathring{\text{M}}$ 02'11	0°41'21
direct	4962 Nov 01 10:13	7° $\mathring{\text{H}}$ 17'28		minimum elong	4968 Sep 16 16:54	27° $\mathring{\text{M}}$ 02'10	0°41'20
evening set	4963 Mar 06 22:57	26° $\mathring{\text{H}}$ 18'30		max. Earth dist.	4968 Sep 17 23:48	27° $\mathring{\text{M}}$ 19'15	6.31358 AU
				morning rise	4968 Sep 30 04:38	0° $\underline{\Omega}$ 00'35	
conjunction	4963 Mar 19 18:56	29° $\mathring{\text{H}}$ 21'13	0°-42'-51		4968 Sep 30 03:34	0° $\underline{\Omega}$	
minimum elong	4963 Mar 19 18:55	29° $\mathring{\text{H}}$ 21'12	0°42'52	retrograde	4969 Jan 31 03:29	17° $\underline{\Omega}$ 34'10	
max. Earth dist.	4963 Mar 18 16:15	29° $\mathring{\text{H}}$ 05'20	6.05898 AU	opposition	4969 Apr 01 07:20	12° $\underline{\Omega}$ 35'00	1°13'49
	4963 Mar 22 12:07	0° $\mathring{\text{Y}}$		min. Earth dist.	4969 Mar 31 19:57	12° $\underline{\Omega}$ 38'46	4.37725 AU
morning rise	4963 Apr 01 15:59	2° $\mathring{\text{Y}}$ 24'49		direct	4969 Jun 01 10:52	7° $\underline{\Omega}$ 32'55	
retrograde	4963 Aug 09 10:21	22° $\mathring{\text{Y}}$ 16'01		evening set	4969 Oct 05 22:26	25° $\underline{\Omega}$ 13'57	
opposition	4963 Oct 08 14:32	17° $\mathring{\text{Y}}$ 18'44	-1°-18'-37				
min. Earth dist.	4963 Oct 08 22:31	17° $\mathring{\text{Y}}$ 16'06	3.99744 AU	conjunction	4969 Oct 19 05:05	28° $\underline{\Omega}$ 06'01	0°56'19
direct	4963 Dec 06 17:59	12° $\mathring{\text{Y}}$ 24'22		minimum elong	4969 Oct 19 05:04	28° $\underline{\Omega}$ 06'00	0°56'20
	4964 Apr 01 23:14	0° $\mathring{\text{Z}}$		max. Earth dist.	4969 Oct 19 06:08	28° $\underline{\Omega}$ 06'34	6.42730 AU
evening set	4964 Apr 10 12:59	2° $\mathring{\text{Z}}$ 03'14			4969 Oct 27 23:55	0° $\mathring{\text{M}}$	
				morning rise	4969 Nov 01 09:35	0° $\mathring{\text{M}}$ 56'52	
conjunction	4964 Apr 23 14:41	5° $\mathring{\text{Z}}$ 13'18	0°-56'-50		4970 Jan 17 17:29	15° $\mathring{\text{M}}$	
minimum elong	4964 Apr 23 14:41	5° $\mathring{\text{Z}}$ 13'18	0°56'52	retrograde	4970 Mar 02 06:25	17° $\mathring{\text{M}}$ 49'40	
max. Earth dist.	4964 Apr 23 19:26	5° $\mathring{\text{Z}}$ 16'11	5.95415 AU		4970 Apr 15 00:10	15° $\mathring{\text{R}}$ $\mathring{\text{M}}$	
morning rise	4964 May 06 19:04	8° $\mathring{\text{Z}}$ 24'53		opposition	4970 May 01 17:55	12° $\mathring{\text{M}}$ 53'57	1°23'49
	4964 Jun 03 21:25	15° $\mathring{\text{Z}}$		min. Earth dist.	4970 May 02 02:29	12° $\mathring{\text{M}}$ 51'10	4.46026 AU
retrograde	4964 Sep 15 20:59	29° $\mathring{\text{Z}}$ 04'49		direct	4970 Jul 02 23:25	7° $\mathring{\text{M}}$ 51'36	
opposition	4964 Nov 14 15:55	24° $\mathring{\text{Z}}$ 03'47	-1°-23'-51		4970 Sep 15 02:22	15° $\mathring{\text{M}}$	
min. Earth dist.	4964 Nov 13 23:39	24° $\mathring{\text{Z}}$ 09'14	3.93414 AU	evening set	4970 Nov 06 03:25	25° $\mathring{\text{M}}$ 15'08	
direct	4965 Jan 11 18:29	19° $\mathring{\text{Z}}$ 09'48		max. Earth dist.	4970 Nov 18 02:43	27° $\mathring{\text{M}}$ 49'23	6.47328 AU
	4965 Apr 08 13:01	0° $\mathring{\text{II}}$					
evening set	4965 May 17 20:12	9° $\mathring{\text{II}}$ 02'55		conjunction	4970 Nov 19 04:02	28° $\mathring{\text{M}}$ 03'01	0°55'28
				minimum elong	4970 Nov 19 04:03	28° $\mathring{\text{M}}$ 03'02	0°55'29
conjunction	4965 May 31 06:00	12° $\mathring{\text{II}}$ 17'31	0°-48'-46		4970 Nov 28 05:23	0° $\mathring{\text{Z}}$	
minimum elong	4965 May 31 06:01	12° $\mathring{\text{II}}$ 17'32	0°48'47	morning rise	4970 Dec 02 02:01	0° $\mathring{\text{Z}}$ 49'40	
max. Earth dist.	4965 Jun 01 20:56	12° $\mathring{\text{II}}$ 41'06	5.93837 AU	retrograde	4971 Apr 01 05:01	17° $\mathring{\text{Z}}$ 29'52	
morning rise	4965 Jun 13 18:34	15° $\mathring{\text{II}}$ 33'34		opposition	4971 Jun 01 00:17	12° $\mathring{\text{Z}}$ 36'38	1°11'37
	4965 Aug 19 22:54	0° $\mathring{\text{S}}$		min. Earth dist.	4971 Jun 02 00:57	12° $\mathring{\text{Z}}$ 28'43	4.46751 AU
retrograde	4965 Oct 23 19:36	6° $\mathring{\text{S}}$ 12'10		direct	4971 Aug 02 17:14	7° $\mathring{\text{Z}}$ 34'50	
min. Earth dist.	4965 Dec 21 00:08	1° $\mathring{\text{S}}$ 19'05	3.96851 AU	evening set	4971 Dec 06 14:27	24° $\mathring{\text{Z}}$ 59'53	
opposition	4965 Dec 22 08:10	1° $\mathring{\text{S}}$ 08'11	0°-55'-5	max. Earth dist.	4971 Dec 17 14:10	27° $\mathring{\text{Z}}$ 23'03	6.44087 AU
	4965 Dec 30 18:40	30° $\mathring{\text{R}}$ $\mathring{\text{II}}$					
direct	4966 Feb 18 06:33	26° $\mathring{\text{II}}$ 12'29		conjunction	4971 Dec 19 10:24	27° $\mathring{\text{Z}}$ 47'10	0°39'50
	4966 Apr 07 21:50	0° $\mathring{\text{S}}$		minimum elong	4971 Dec 19 10:26	27° $\mathring{\text{Z}}$ 47'11	0°39'51
evening set	4966 Jun 24 14:15	15° $\mathring{\text{S}}$ 48'33			4971 Dec 29 14:15	0° $\mathring{\text{Z}}$	
				morning rise	4972 Jan 01 04:02	0° $\mathring{\text{Z}}$ 33'31	
conjunction	4966 Jul 08 06:14	19° $\mathring{\text{S}}$ 02'15	0°-21'-27	retrograde	4972 May 01 03:41	17° $\mathring{\text{Z}}$ 30'37	
minimum elong	4966 Jul 08 06:15	19° $\mathring{\text{S}}$ 02'16	0°21'28	opposition	4972 Jul 01 01:57	12° $\mathring{\text{Z}}$ 38'28	0°40'17
max. Earth dist.	4966 Jul 10 15:14	19° $\mathring{\text{S}}$ 35'57	6.01895 AU	min. Earth dist.	4972 Jul 02 14:05	12° $\mathring{\text{Z}}$ 26'57	4.39729 AU
morning rise	4966 Jul 22 00:12	22° $\mathring{\text{S}}$ 16'44		direct	4972 Sep 01 16:12	7° $\mathring{\text{Z}}$ 37'57	
	4966 Aug 25 06:19	0° $\mathring{\Omega}$		evening set	4973 Jan 05 05:58	25° $\mathring{\text{Z}}$ 23'31	
retrograde	4966 Nov 28 14:46	12° $\mathring{\Omega}$ 05'01		max. Earth dist.	4973 Jan 15 18:01	27° $\mathring{\text{Z}}$ 43'56	6.33760 AU
min. Earth dist.	4967 Jan 25 16:12	7° $\mathring{\Omega}$ 12'53	4.08576 AU				
opposition	4967 Jan 27 04:47	7° $\mathring{\Omega}$ 00'27	0°-6'-6	conjunction	4973 Jan 17 23:22	28° $\mathring{\text{Z}}$ 13'46	0°13'00
asc. node	4967 Mar 15 13:18	2° $\mathring{\Omega}$ 14'51		minimum elong	4973 Jan 17 23:23	28° $\mathring{\text{Z}}$ 13'46	0°13'01
direct	4967 Mar 26 18:51	2° $\mathring{\Omega}$ 01'58		behind sun begin	4973 Jan 17 18:29	28° $\mathring{\text{Z}}$ 11'03	
	4967 Jul 04 07:16	15° $\mathring{\Omega}$		behind sun end	4973 Jan 18 04:17	28° $\mathring{\text{Z}}$ 16'30	
evening set	4967 Jul 31 08:07	20° $\mathring{\Omega}$ 59'26			4973 Jan 25 21:23	0° \approx	
				morning rise	4973 Jan 30 15:34	1° \approx 03'37	

	4973 Apr 13 04:22	15°♊		min. Earth dist.	4979 Jan 30 12:57	12°♏11'00	4.10432 AU
retrograde	4973 Jun 02 22:45	18°♊45'56		opposition	4979 Feb 01 00:32	11°♏58'53	0°01'06
desc. node	4973 Jun 30 06:15	17°♊37'36		direct	4979 Mar 31 19:05	7°♏00'02	
	4973 Jul 25 00:32	15°♋			4979 Jun 14 20:04	15°♏	
opposition	4973 Aug 02 19:14	13°♊53'14	0°-3'-59	evening set	4979 Aug 05 07:56	25°♏52'00	
min. Earth dist.	4973 Aug 04 08:03	13°♊41'27	4.26659 AU				
direct	4973 Oct 03 13:22	8°♊54'36		conjunction	4979 Aug 19 00:48	28°♏58'35	0°17'29
	4973 Dec 08 10:38	15°♋		minimum elong	4979 Aug 19 00:47	28°♏58'34	0°17'29
evening set	4974 Feb 06 00:41	27°♋16'56		max. Earth dist.	4979 Aug 21 03:49	29°♏27'35	6.18264 AU
max. Earth dist.	4974 Feb 16 21:00	29°♋46'55	6.18970 AU		4979 Aug 23 12:53	0°♐	
	4974 Feb 17 19:37	0°♋		morning rise	4979 Sep 01 17:33	2°♐04'50	
				retrograde	4980 Jan 05 10:07	20°♐32'25	
conjunction	4974 Feb 18 18:17	0°♋13'06	0°-18'-48	min. Earth dist.	4980 Mar 04 04:09	15°♐39'00	4.26068 AU
minimum elong	4974 Feb 18 18:16	0°♋13'06	0°18'49	opposition	4980 Mar 05 06:14	15°♐30'15	0°47'30
morning rise	4974 Mar 03 11:37	3°♋09'30		direct	4980 May 04 06:49	10°♐29'12	
retrograde	4974 Jul 08 04:25	21°♋58'42		evening set	4980 Sep 07 20:47	28°♐38'11	
opposition	4974 Sep 06 17:39	17°♋04'05	0°-50'-4		4980 Sep 14 02:00	0°♑	
min. Earth dist.	4974 Sep 07 19:50	16°♋55'36	4.11167 AU				
direct	4974 Nov 06 03:42	12°♋07'53		conjunction	4980 Sep 21 08:56	1°♑36'16	0°44'20
	4975 Mar 06 11:00	0°♌		minimum elong	4980 Sep 21 08:54	1°♑36'15	0°44'20
evening set	4975 Mar 11 17:20	1°♌14'32		max. Earth dist.	4980 Sep 22 11:20	1°♑50'48	6.33400 AU
				morning rise	4980 Oct 04 19:48	4°♑33'25	
conjunction	4975 Mar 24 13:45	4°♌18'15	0°-45'-52	retrograde	4981 Feb 04 09:52	21°♑59'05	
minimum elong	4975 Mar 24 13:43	4°♌18'14	0°45'53	opposition	4981 Apr 05 14:35	17°♑00'23	1°16'32
max. Earth dist.	4975 Mar 23 13:27	4°♌03'44	6.04113 AU	min. Earth dist.	4981 Apr 05 06:09	17°♑03'10	4.39540 AU
morning rise	4975 Apr 06 11:45	7°♌23'01		direct	4981 Jun 05 23:02	11°♑58'11	
retrograde	4975 Aug 14 15:06	27°♌22'52		evening set	4981 Oct 10 08:10	29°♑34'34	
opposition	4975 Oct 13 18:53	22°♌25'02	-1°-21'-20		4981 Oct 12 07:36	0°♒	
min. Earth dist.	4975 Oct 13 23:14	22°♌23'35	3.98333 AU				
direct	4975 Dec 11 18:19	17°♌30'45		conjunction	4981 Oct 23 14:01	2°♒25'42	0°57'08
	4976 Mar 15 15:39	0°♓		minimum elong	4981 Oct 23 14:00	2°♒25'42	0°57'08
evening set	4976 Apr 15 14:07	7°♓13'31		max. Earth dist.	4981 Oct 23 12:57	2°♒25'07	6.44191 AU
				morning rise	4981 Nov 05 17:19	5°♒15'33	
conjunction	4976 Apr 28 17:01	10°♓24'30	0°-57'-5		4981 Dec 24 15:43	15°♒	
minimum elong	4976 Apr 28 17:01	10°♓24'30	0°57'06	retrograde	4982 Mar 06 07:49	22°♒03'33	
max. Earth dist.	4976 Apr 29 03:37	10°♓30'57	5.94525 AU	opposition	4982 May 05 21:55	17°♒08'13	1°23'21
morning rise	4976 May 11 22:24	13°♓36'59		min. Earth dist.	4982 May 06 07:48	17°♒05'01	4.47046 AU
	4976 May 17 16:34	15°♓			4982 May 22 23:31	15°♒♌	
	4976 Jul 29 16:08	0°♐		direct	4982 Jul 07 05:17	12°♒05'56	
retrograde	4976 Sep 21 05:23	4°♐20'27			4982 Aug 21 17:10	15°♒	
	4976 Nov 14 19:20	30°♒♓		evening set	4982 Nov 10 08:16	29°♒26'56	
opposition	4976 Nov 19 21:52	29°♒18'55	-1°-21'-44		4982 Nov 12 22:08	0°♓	
min. Earth dist.	4976 Nov 19 03:53	29°♒24'58	3.93155 AU	max. Earth dist.	4982 Nov 22 03:08	1°♓58'45	6.47826 AU
direct	4977 Jan 16 23:06	24°♒24'48					
	4977 Mar 17 15:19	0°♐		conjunction	4982 Nov 23 07:57	2°♓14'17	0°54'07
evening set	4977 May 23 01:30	14°♐18'01		minimum elong	4982 Nov 23 07:57	2°♓14'17	0°54'08
				morning rise	4982 Dec 06 05:09	5°♓00'26	
conjunction	4977 Jun 05 12:20	17°♐32'56	0°-45'-53	retrograde	4983 Apr 05 08:43	21°♓39'42	
minimum elong	4977 Jun 05 12:22	17°♐32'57	0°45'55	opposition	4983 Jun 05 04:08	16°♓46'44	1°08'19
max. Earth dist.	4977 Jun 07 06:38	17°♐58'30	5.94223 AU	min. Earth dist.	4983 Jun 06 07:48	16°♓37'53	4.46679 AU
morning rise	4977 Jun 19 02:04	20°♐49'17		direct	4983 Aug 06 23:09	11°♓45'02	
	4977 Jul 29 06:09	0°♑		evening set	4983 Dec 10 17:08	29°♓10'22	
retrograde	4977 Oct 28 21:51	11°♑24'10			4983 Dec 14 12:39	0°♔	
min. Earth dist.	4977 Dec 26 00:20	6°♑31'35	3.97849 AU	max. Earth dist.	4983 Dec 21 13:01	1°♔31'44	6.43430 AU
opposition	4977 Dec 27 10:30	6°♑19'58	0°-48'-58				
direct	4978 Feb 23 08:45	1°♑23'56		conjunction	4983 Dec 23 12:34	1°♔57'42	0°36'44
evening set	4978 Jun 29 18:54	20°♑56'25		minimum elong	4983 Dec 23 12:35	1°♔57'43	0°36'44
				morning rise	4984 Jan 05 05:51	4°♔44'09	
conjunction	4978 Jul 13 11:19	24°♑09'37	0°-16'-44	retrograde	4984 May 05 09:56	21°♔44'45	
minimum elong	4978 Jul 13 11:20	24°♑09'38	0°16'46	opposition	4984 Jul 05 08:47	16°♔52'34	0°34'51
max. Earth dist.	4978 Jul 15 19:58	24°♑42'59	6.03407 AU	min. Earth dist.	4984 Jul 06 21:37	16°♔40'50	4.38504 AU
morning rise	4978 Jul 27 05:42	27°♑23'32		direct	4984 Sep 05 20:37	11°♔52'11	
	4978 Aug 07 12:19	0°♒		evening set	4985 Jan 09 10:04	29°♔41'16	
	4978 Oct 28 10:14	15°♒			4985 Jan 10 19:44	0°♓	
retrograde	4978 Dec 03 10:22	17°♒03'21		max. Earth dist.	4985 Jan 19 22:37	2°♓02'29	6.32051 AU
	4979 Jan 08 04:40	15°♒♏					
asc. node	4979 Jan 23 09:36	13°♒08'39		conjunction	4985 Jan 22 03:26	2°♓32'08	0°08'50

minimum elong	4985 Jan 22 03:26	2° \approx 32'08	0°08'52	behind sun end	4990 Jul 19 00:50	29° \approx 26'34	
behind sun begin	4985 Jan 21 20:34	2° \approx 28'18		max. Earth dist.	4990 Jul 21 06:31	29° \approx 58'03	6.05073 AU
behind sun end	4985 Jan 22 10:18	2° \approx 35'58			4990 Jul 21 09:50	0° Ω	
morning rise	4985 Feb 03 19:27	5° \approx 22'38		morning rise	4990 Aug 01 13:29	2° Ω 36'20	
	4985 Mar 21 18:49	15° \approx			4990 Sep 28 22:59	15° Ω	
desc. node	4985 May 12 04:49	22° \approx 08'57		asc. node	4990 Dec 02 04:12	22° Ω 02'50	
retrograde	4985 Jun 07 13:09	23° \approx 12'51		retrograde	4990 Dec 08 07:30	22° Ω 06'34	
opposition	4985 Aug 07 08:20	18° \approx 20'01	0°-10'-22	min. Earth dist.	4991 Feb 04 10:07	17° Ω 14'16	4.12533 AU
min. Earth dist.	4985 Aug 08 21:37	18° \approx 08'05	4.24546 AU	opposition	4991 Feb 05 21:39	17° Ω 02'13	0°08'24
	4985 Sep 04 21:50	15° \approx			4991 Feb 21 09:13	15° \approx	
direct	4985 Oct 07 22:54	13° \approx 21'41		direct	4991 Apr 05 19:30	12° Ω 02'58	
	4985 Nov 09 18:58	15° \approx			4991 May 19 09:13	15° Ω	
	4986 Feb 02 09:29	0° \approx			4991 Aug 06 18:54	0° \approx	
evening set	4986 Feb 10 10:18	1° \approx 50'21		evening set	4991 Aug 10 09:11	0° \approx 48'24	
max. Earth dist.	4986 Feb 21 06:24	4° \approx 21'04	6.16612 AU				
				conjunction	4991 Aug 24 01:26	3° \approx 53'43	0°21'59
conjunction	4986 Feb 23 03:59	4° \approx 47'34	0°-22'-57	minimum elong	4991 Aug 24 01:25	3° \approx 53'42	0°21'59
minimum elong	4986 Feb 23 03:58	4° \approx 47'33	0°22'58	max. Earth dist.	4991 Aug 26 01:23	4° \approx 20'48	6.20572 AU
morning rise	4986 Mar 07 21:56	7° \approx 45'11		morning rise	4991 Sep 06 17:42	6° \approx 58'38	
retrograde	4986 Jul 13 02:42	26° \approx 45'30		retrograde	4992 Jan 09 21:24	25° \approx 15'52	
opposition	4986 Sep 11 14:48	21° \approx 50'32	0°-55'-34	opposition	4992 Mar 09 19:37	20° \approx 14'00	0°52'53
min. Earth dist.	4986 Sep 12 14:37	21° \approx 42'47	4.08739 AU	min. Earth dist.	4992 Mar 08 19:35	20° \approx 22'04	4.28349 AU
direct	4986 Nov 10 19:11	16° \approx 54'37		direct	4992 May 09 01:05	15° \approx 12'38	
	4987 Feb 17 21:14	0° \approx			4992 Aug 28 10:39	0° \approx	
evening set	4987 Mar 16 11:13	6° \approx 09'00		evening set	4992 Sep 12 13:53	3° \approx 15'24	
conjunction	4987 Mar 29 08:34	9° \approx 14'06	0°-48'-32	conjunction	4992 Sep 26 01:17	6° \approx 12'17	0°47'05
minimum elong	4987 Mar 29 08:32	9° \approx 14'05	0°48'33	minimum elong	4992 Sep 26 01:16	6° \approx 12'16	0°47'06
max. Earth dist.	4987 Mar 28 13:04	9° \approx 02'24	6.01850 AU	max. Earth dist.	4992 Sep 27 01:16	6° \approx 25'25	6.35460 AU
morning rise	4987 Apr 11 07:21	12° \approx 20'17		morning rise	4992 Oct 09 10:52	9° \approx 08'05	
	4987 Jul 10 15:15	0° \approx		retrograde	4993 Feb 08 15:39	26° \approx 26'04	
retrograde	4987 Aug 19 23:45	2° \approx 30'50		opposition	4993 Apr 09 22:19	21° \approx 27'50	1°18'51
	4987 Sep 29 12:27	30° \approx		min. Earth dist.	4993 Apr 09 16:00	21° \approx 29'55	4.41225 AU
opposition	4987 Oct 18 23:37	27° \approx 32'35	-1°-23'-28	direct	4993 Jun 10 10:39	16° \approx 25'35	
min. Earth dist.	4987 Oct 19 01:53	27° \approx 31'51	3.96470 AU		4993 Sep 25 21:56	0° \approx	
direct	4987 Dec 16 19:00	22° \approx 38'30		evening set	4993 Oct 14 18:49	3° \approx 57'54	
	4988 Feb 24 15:30	0° \approx					
evening set	4988 Apr 20 16:45	12° \approx 27'09		conjunction	4993 Oct 27 23:32	6° \approx 48'09	0°57'38
	4988 May 01 04:16	15° \approx		minimum elong	4993 Oct 27 23:32	6° \approx 48'09	0°57'38
				max. Earth dist.	4993 Oct 27 16:48	6° \approx 44'32	6.45358 AU
conjunction	4988 May 03 20:46	15° \approx 39'18	0°-56'-51	morning rise	4993 Nov 10 01:59	9° \approx 37'11	
minimum elong	4988 May 03 20:47	15° \approx 39'18	0°56'52		4993 Dec 05 22:16	15° \approx	
max. Earth dist.	4988 May 04 11:29	15° \approx 48'15	5.93239 AU	retrograde	4994 Mar 10 13:09	26° \approx 21'34	
morning rise	4988 May 17 03:37	18° \approx 53'02		opposition	4994 May 10 03:30	21° \approx 26'36	1°22'27
	4988 Jul 05 05:23	0° \approx		min. Earth dist.	4994 May 10 17:00	21° \approx 22'14	4.47641 AU
retrograde	4988 Sep 26 13:58	9° \approx 41'24		direct	4994 Jul 11 14:22	16° \approx 24'16	
min. Earth dist.	4988 Nov 24 07:28	4° \approx 46'51	3.92624 AU		4994 Oct 27 19:44	0° \approx	
opposition	4988 Nov 25 05:31	4° \approx 39'25	-1°-18'-55	evening set	4994 Nov 14 14:47	3° \approx 44'11	
	4989 Jan 10 05:27	30° \approx		max. Earth dist.	4994 Nov 26 06:21	6° \approx 14'17	6.47799 AU
direct	4989 Jan 22 02:48	29° \approx 45'11					
	4989 Feb 03 01:58	0° \approx		conjunction	4994 Nov 27 13:53	6° \approx 31'17	0°52'27
evening set	4989 May 28 09:28	19° \approx 39'36		minimum elong	4994 Nov 27 13:54	6° \approx 31'17	0°52'28
				morning rise	4994 Dec 10 10:17	9° \approx 17'11	
conjunction	4989 Jun 10 21:23	22° \approx 54'55	0°-42'-35	retrograde	4995 Apr 09 13:53	25° \approx 57'19	
minimum elong	4989 Jun 10 21:25	22° \approx 54'56	0°42'36	opposition	4995 Jun 09 11:05	21° \approx 04'29	1°04'35
max. Earth dist.	4989 Jun 12 18:57	23° \approx 22'26	5.94493 AU	min. Earth dist.	4995 Jun 10 15:52	20° \approx 55'17	4.46042 AU
morning rise	4989 Jun 24 12:10	26° \approx 11'36		direct	4995 Aug 11 04:58	16° \approx 02'54	
	4989 Jul 10 15:03	0° \approx			4995 Nov 28 13:28	0° \approx	
retrograde	4989 Nov 03 02:45	16° \approx 42'53		evening set	4995 Dec 14 23:16	3° \approx 30'16	
min. Earth dist.	4989 Dec 31 03:33	11° \approx 50'28	3.98865 AU	max. Earth dist.	4995 Dec 25 17:13	5° \approx 51'01	6.42224 AU
opposition	4990 Jan 01 14:59	11° \approx 38'23	0°-42'-22				
direct	4990 Feb 28 15:32	6° \approx 41'56		conjunction	4995 Dec 27 18:13	6° \approx 17'52	0°33'18
evening set	4990 Jul 05 02:05	26° \approx 10'33		minimum elong	4995 Dec 27 18:14	6° \approx 17'53	0°33'19
				morning rise	4996 Jan 09 11:10	9° \approx 04'40	
conjunction	4990 Jul 18 19:05	29° \approx 23'12	0°-11'-50	retrograde	4996 May 09 22:53	26° \approx 10'34	
minimum elong	4990 Jul 18 19:06	29° \approx 23'13	0°11'52	opposition	4996 Jul 09 20:40	21° \approx 18'25	0°28'58
behind sun begin	4990 Jul 18 13:21	29° \approx 19'52		min. Earth dist.	4996 Jul 11 11:21	21° \approx 06'05	4.36783 AU

direct	4996 Sep 10 07:29	16°☾18'15		evening set	5002 Jul 11 07:06	1°♂17'56	
	4996 Dec 25 14:57	0°♊					
evening set	4997 Jan 13 19:27	4°♊12'16		conjunction	5002 Jul 25 00:08	4°♂29'34	0°-6'-58
max. Earth dist.	4997 Jan 24 06:35	6°♊33'24	6.29941 AU	minimum elong	5002 Jul 25 00:08	4°♂29'34	0°06'59
				behind sun begin	5002 Jul 24 16:23	4°♂25'05	
conjunction	4997 Jan 26 12:41	7°♊03'55	0°04'25	behind sun end	5002 Jul 25 07:53	4°♂34'04	
minimum elong	4997 Jan 26 12:41	7°♊03'55	0°04'26	max. Earth dist.	5002 Jul 27 10:22	5°♂03'32	6.07361 AU
behind sun begin	4997 Jan 26 04:52	6°♊59'31		morning rise	5002 Aug 07 18:41	7°♂41'37	
behind sun end	4997 Jan 26 20:30	7°♊08'18			5002 Sep 09 14:15	15°♂	
morning rise	4997 Feb 08 04:55	9°♊55'19		asc. node	5002 Oct 13 01:04	21°♂21'54	
	4997 Mar 03 08:13	15°♊		retrograde	5002 Dec 13 22:45	27°♂00'32	
desc. node	4997 Mar 21 15:12	18°♊43'42		min. Earth dist.	5003 Feb 10 04:37	22°♂08'12	4.15024 AU
retrograde	4997 Jun 12 08:29	27°♊54'46		opposition	5003 Feb 11 15:26	21°♂56'23	0°15'22
opposition	4997 Aug 12 03:35	23°♊01'41	0°-17'-6	direct	5003 Apr 11 17:22	16°♂56'46	
min. Earth dist.	4997 Aug 13 15:12	22°♊50'15	4.22187 AU		5003 Jul 21 17:24	0°♎	
direct	4997 Oct 12 13:04	18°♊03'38		evening set	5003 Aug 16 06:31	5°♎34'51	
	4998 Jan 16 07:49	0°♋					
evening set	4998 Feb 15 02:05	6°♋39'19		conjunction	5003 Aug 29 22:21	8°♎38'51	0°26'11
max. Earth dist.	4998 Feb 26 02:22	9°♋13'13	6.14212 AU	minimum elong	5003 Aug 29 22:19	8°♎38'51	0°26'11
				max. Earth dist.	5003 Aug 31 19:45	9°♎04'23	6.23062 AU
conjunction	4998 Feb 27 20:12	9°♋37'41	0°-27'-12	morning rise	5003 Sep 12 13:40	11°♎42'19	
minimum elong	4998 Feb 27 20:11	9°♋37'40	0°27'13	retrograde	5004 Jan 15 06:28	29°♎49'19	
morning rise	4998 Mar 12 14:33	12°♋36'31		min. Earth dist.	5004 Mar 14 08:07	24°♎55'07	4.30617 AU
	4998 Jun 14 04:54	0°♌		opposition	5004 Mar 15 05:25	24°♎48'00	0°57'43
retrograde	4998 Jul 18 09:19	1°♌48'00		direct	5004 May 14 16:00	19°♎46'30	
	4998 Aug 21 16:20	30°♌			5004 Aug 11 23:02	0°♍	
opposition	4998 Sep 16 18:47	26°♌52'41	-1°00'-59	evening set	5004 Sep 18 03:30	7°♍43'34	
min. Earth dist.	4998 Sep 17 16:52	26°♌45'29	4.06506 AU				
direct	4998 Nov 15 19:01	21°♌57'07		conjunction	5004 Oct 01 13:54	10°♍39'19	0°49'28
	4999 Jan 29 08:43	0°♌		minimum elong	5004 Oct 01 13:53	10°♍39'18	0°49'28
evening set	4999 Mar 21 11:12	11°♌18'08		max. Earth dist.	5004 Oct 02 08:27	10°♍49'26	6.37322 AU
				morning rise	5004 Oct 14 22:37	13°♍33'59	
conjunction	4999 Apr 03 09:16	14°♌24'25	0°-50'-58		5005 Jan 22 21:02	0°♎	
minimum elong	4999 Apr 03 09:15	14°♌24'24	0°51'00	retrograde	5005 Feb 13 19:17	0°♎45'31	
max. Earth dist.	4999 Apr 02 17:26	14°♌14'53	6.00000 AU		5005 Mar 07 15:10	30°♎	
morning rise	4999 Apr 16 09:13	17°♌31'55		opposition	5005 Apr 15 03:24	25°♍47'47	1°20'40
	4999 Jun 12 01:37	0°♏		min. Earth dist.	5005 Apr 15 00:13	25°♍48'50	4.42578 AU
retrograde	4999 Aug 25 10:15	7°♏51'06		direct	5005 Jun 15 19:27	20°♍45'28	
opposition	4999 Oct 24 09:21	2°♏52'20	-1°-25'00		5005 Sep 09 09:00	0°♎	
min. Earth dist.	4999 Oct 24 06:53	2°♏53'09	3.95246 AU	evening set	5005 Oct 20 02:27	8°♎15'02	
	4999 Nov 16 13:20	30°♏					
direct	4999 Dec 21 23:24	27°♏58'25		conjunction	5005 Nov 02 06:29	11°♎04'42	0°57'49
	5000 Jan 26 00:40	0°♐		minimum elong	5005 Nov 02 06:29	11°♎04'42	0°57'50
	5000 Apr 15 04:11	15°♐		max. Earth dist.	5005 Nov 01 20:41	10°♎59'26	6.46111 AU
evening set	5000 Apr 26 23:48	17°♐50'12		morning rise	5005 Nov 15 07:53	13°♎53'05	
					5005 Nov 20 13:34	15°♎	
conjunction	5000 May 10 04:57	21°♐03'06	0°-56'-11		5006 Feb 24 04:00	0°♑	
minimum elong	5000 May 10 04:58	21°♐03'07	0°56'12	retrograde	5006 Mar 15 15:44	0°♑35'34	
max. Earth dist.	5000 May 11 01:09	21°♐15'25	5.92780 AU		5006 Apr 04 02:43	30°♎	
morning rise	5000 May 23 12:57	24°♐17'36		opposition	5006 May 15 07:41	25°♎41'02	1°21'11
	5000 Jun 16 16:18	0°♑		min. Earth dist.	5006 May 15 23:23	25°♎35'58	4.47764 AU
retrograde	5000 Oct 02 23:58	15°♑06'54		direct	5006 Jul 16 19:43	20°♎38'51	
opposition	5000 Dec 01 14:59	10°♑04'25	-1°-15'-24		5006 Oct 11 11:30	0°♑	
min. Earth dist.	5000 Nov 30 14:24	10°♑12'44	3.92998 AU	evening set	5006 Nov 19 20:10	7°♑59'14	
direct	5001 Jan 28 12:20	5°♑09'58		max. Earth dist.	5006 Dec 01 06:30	10°♑26'50	6.47277 AU
evening set	5001 Jun 03 18:26	25°♑01'56					
				conjunction	5006 Dec 02 18:29	10°♑46'16	0°50'32
conjunction	5001 Jun 17 07:26	28°♑17'10	0°-38'-57	minimum elong	5006 Dec 02 18:30	10°♑46'16	0°50'32
minimum elong	5001 Jun 17 07:28	28°♑17'11	0°38'58	morning rise	5006 Dec 15 14:27	13°♑32'11	
max. Earth dist.	5001 Jun 19 10:02	28°♑47'36	5.95670 AU		5007 Apr 02 05:35	0°♒	
	5001 Jun 24 10:30	0°♓		retrograde	5007 Apr 14 22:02	0°♒14'59	
morning rise	5001 Jun 30 22:57	1°♓33'37			5007 Apr 27 12:39	30°♎	
retrograde	5001 Nov 09 06:24	21°♓57'21		opposition	5007 Jun 14 18:12	25°♑22'24	1°00'33
min. Earth dist.	5002 Jan 06 05:35	17°♓05'08	4.00700 AU	min. Earth dist.	5007 Jun 16 01:51	25°♑12'17	4.44914 AU
opposition	5002 Jan 07 18:01	16°♓52'43	0°-35'-32	direct	5007 Aug 16 12:48	20°♑20'59	
direct	5002 Mar 06 20:37	11°♓55'55			5007 Nov 12 05:14	0°♒	
	5002 Jul 05 16:18	0°♈		evening set	5007 Dec 20 05:38	7°♒51'57	

max. Earth dist.	5007 Dec 30 21:58	10°☾12'22	6.40576 AU	conjunction	5013 Jun 22 14:52	3°☾33'21	0°-35'-3
				minimum elong	5013 Jun 22 14:54	3°☾33'22	0°35'04
conjunction	5008 Jan 02 00:24	10°☾40'06	0°29'42	max. Earth dist.	5013 Jun 24 18:27	4°☾04'16	5.97067 AU
minimum elong	5008 Jan 02 00:25	10°☾40'06	0°29'43	morning rise	5013 Jul 06 07:14	6°☾49'27	
morning rise	5008 Jan 14 17:05	13°☾27'28		retrograde	5013 Nov 14 04:25	27°☾04'58	
	5008 Apr 24 15:36	0°☾		min. Earth dist.	5014 Jan 11 04:26	22°☾12'57	4.02568 AU
retrograde	5008 May 15 11:27	0°☾40'16		opposition	5014 Jan 12 17:47	22°☾00'12	0°-28'-34
	5008 Jun 05 08:48	30°☾☾		direct	5014 Mar 11 22:27	17°☾02'57	
opposition	5008 Jul 15 09:51	25°☾48'04	0°22'54		5014 Jun 18 08:01	0°☾	
min. Earth dist.	5008 Jul 16 23:48	25°☾35'58	4.34728 AU	evening set	5014 Jul 16 09:35	6°☾18'44	
direct	5008 Sep 15 16:39	20°☾48'13					
	5008 Dec 08 15:57	0°☾		conjunction	5014 Jul 30 02:51	9°☾29'27	0°-2'-7
evening set	5009 Jan 19 06:15	8°☾48'14		minimum elong	5014 Jul 30 02:50	9°☾29'26	0°02'08
max. Earth dist.	5009 Jan 29 19:02	11°☾11'03	6.27645 AU	behind sun begin	5014 Jul 29 18:26	9°☾24'35	
desc. node	5009 Jan 30 04:09	11°☾16'14		behind sun end	5014 Jul 30 11:13	9°☾34'17	
				max. Earth dist.	5014 Aug 01 12:18	10°☾02'46	6.09538 AU
conjunction	5009 Jan 31 23:27	11°☾40'48	0°00'-8	morning rise	5014 Aug 12 21:06	12°☾40'21	
minimum elong	5009 Jan 31 23:27	11°☾40'48	0°00'09	asc. node	5014 Aug 23 03:25	15°☾00'41	
behind sun begin	5009 Jan 31 15:34	11°☾36'21			5014 Aug 23 02:12	15°☾	
behind sun end	5009 Feb 01 07:21	11°☾45'15			5014 Nov 14 18:22	0°☾	
morning rise	5009 Feb 13 15:49	14°☾33'13		retrograde	5014 Dec 18 14:19	1°☾48'44	
	5009 Feb 15 15:24	15°☾			5015 Jan 21 03:17	30°☾☾	
	5009 May 06 18:08	0°☾		min. Earth dist.	5015 Feb 14 22:19	26°☾55'55	4.17277 AU
retrograde	5009 Jun 18 08:11	2°☾42'42		opposition	5015 Feb 16 06:54	26°☾44'53	0°22'08
	5009 Jul 31 10:53	30°☾☾		direct	5015 Apr 16 13:51	21°☾44'56	
opposition	5009 Aug 18 01:20	27°☾49'24	0°-23'-49		5015 Jul 02 19:07	0°☾	
min. Earth dist.	5009 Aug 19 12:16	27°☾38'10	4.19805 AU	evening set	5015 Aug 21 02:10	10°☾16'44	
direct	5009 Oct 18 07:27	22°☾51'45					
	5009 Dec 28 11:14	0°☾		conjunction	5015 Sep 03 17:24	13°☾19'34	0°30'11
evening set	5010 Feb 20 19:46	11°☾34'14		minimum elong	5015 Sep 03 17:23	13°☾19'33	0°30'11
max. Earth dist.	5010 Mar 03 22:49	14°☾10'33	6.11957 AU	max. Earth dist.	5015 Sep 05 11:28	13°☾43'06	6.25201 AU
				morning rise	5015 Sep 17 08:01	16°☾21'47	
conjunction	5010 Mar 05 14:14	14°☾33'42	0°-31'-18		5015 Nov 26 11:01	0°☾	
minimum elong	5010 Mar 05 14:13	14°☾33'41	0°31'19	retrograde	5016 Jan 19 13:04	4°☾20'00	
morning rise	5010 Mar 18 09:15	17°☾33'46			5016 Mar 14 11:19	30°☾☾	
	5010 May 15 18:30	0°☾		opposition	5016 Mar 19 14:15	29°☾19'07	1°02'11
retrograde	5010 Jul 24 15:07	6°☾55'37		min. Earth dist.	5016 Mar 18 18:49	29°☾25'36	4.32491 AU
opposition	5010 Sep 23 00:08	1°☾59'51	-1°-6'00	direct	5016 May 19 04:36	24°☾17'25	
min. Earth dist.	5010 Sep 23 17:56	1°☾54'02	4.04603 AU		5016 Jul 22 09:34	0°☾	
	5010 Oct 08 18:26	30°☾☾		evening set	5016 Sep 22 16:24	12°☾10'05	
direct	5010 Nov 21 18:23	27°☾04'37					
	5011 Jan 03 20:36	0°☾		conjunction	5016 Oct 06 01:58	15°☾04'53	0°51'34
evening set	5011 Mar 27 12:29	16°☾30'50		minimum elong	5016 Oct 06 01:57	15°☾04'52	0°51'33
				max. Earth dist.	5016 Oct 06 16:27	15°☾12'46	6.38795 AU
conjunction	5011 Apr 09 11:19	19°☾38'05	0°-53'-1	morning rise	5016 Oct 19 09:36	17°☾58'32	
minimum elong	5011 Apr 09 11:18	19°☾38'04	0°53'02		5016 Dec 20 11:50	0°☾	
max. Earth dist.	5011 Apr 09 01:03	19°☾31'53	5.98621 AU	retrograde	5017 Feb 18 00:11	5°☾04'54	
morning rise	5011 Apr 22 12:11	22°☾46'37		opposition	5017 Apr 19 08:53	0°☾07'41	1°22'04
	5011 May 23 14:43	0°☾		min. Earth dist.	5017 Apr 19 08:52	0°☾07'42	4.43568 AU
retrograde	5011 Aug 31 21:01	13°☾12'06			5017 Apr 20 08:24	30°☾☾	
opposition	5011 Oct 30 18:44	8°☾12'43	-1°-25'-46	direct	5017 Jun 20 04:50	25°☾05'21	
min. Earth dist.	5011 Oct 30 13:15	8°☾14'33	3.94542 AU		5017 Aug 19 05:01	0°☾	
direct	5011 Dec 28 06:14	3°☾18'49		evening set	5017 Oct 24 10:53	12°☾33'09	
	5012 Mar 28 01:08	15°☾			5017 Nov 04 20:30	15°☾	
evening set	5012 May 02 06:02	23°☾11'34					
				conjunction	5017 Nov 06 14:00	15°☾22'20	0°57'41
conjunction	5012 May 15 12:22	26°☾25'00	0°-55'-2	minimum elong	5017 Nov 06 14:00	15°☾22'20	0°57'43
minimum elong	5012 May 15 12:23	26°☾25'01	0°55'04	max. Earth dist.	5017 Nov 05 23:06	15°☾14'19	6.46534 AU
max. Earth dist.	5012 May 16 14:35	26°☾40'58	5.92806 AU	morning rise	5017 Nov 19 14:41	18°☾10'16	
morning rise	5012 May 28 21:27	29°☾39'58			5018 Jan 20 11:41	0°☾	
	5012 May 30 06:38	0°☾		retrograde	5018 Mar 19 20:49	4°☾51'43	
retrograde	5012 Oct 08 08:23	20°☾27'48		opposition	5018 May 19 13:08	29°☾57'31	1°19'28
opposition	5012 Dec 06 22:07	15°☾24'54	-1°-11'-15		5018 May 19 05:26	30°☾☾	
min. Earth dist.	5012 Dec 05 19:12	15°☾34'00	3.93766 AU	min. Earth dist.	5018 May 20 07:32	29°☾51'35	4.47627 AU
direct	5013 Feb 02 18:55	10°☾30'12		direct	5018 Jul 21 02:55	24°☾55'23	
	5013 Jun 07 18:16	0°☾			5018 Sep 20 14:31	0°☾	
evening set	5013 Jun 09 01:15	0°☾18'27		evening set	5018 Nov 24 02:42	12°☾16'53	

max. Earth dist.	5018 Dec 05 11:24	14°♂43'52	6.46597 AU	evening set	5024 May 07 08:47	28°♂23'00	
					5024 May 14 00:52	0°♂	
conjunction	5018 Dec 07 00:35	15°♂03'58	0°48'19				
minimum elong	5018 Dec 07 00:36	15°♂03'59	0°48'19	conjunction	5024 May 20 15:56	1°♂36'41	0°-53'-28
morning rise	5018 Dec 19 19:50	17°♂49'57		minimum elong	5024 May 20 15:57	1°♂36'42	0°53'29
	5019 Feb 21 12:51	0°♂		max. Earth dist.	5024 May 21 20:36	1°♂54'07	5.93186 AU
retrograde	5019 Apr 19 05:40	4°♂35'49		morning rise	5024 Jun 03 02:11	4°♂51'58	
	5019 Jun 16 23:05	30°♂43'25		retrograde	5024 Oct 13 09:34	25°♂37'02	
opposition	5019 Jun 19 03:04	29°♂43'25	0°56'06	opposition	5024 Dec 11 23:57	20°♂33'47	-1°-6'-41
min. Earth dist.	5019 Jun 20 11:20	29°♂33'08	4.43751 AU	min. Earth dist.	5024 Dec 10 18:53	20°♂43'38	3.94718 AU
direct	5019 Aug 20 20:19	24°♂42'18		direct	5025 Feb 07 20:54	15°♂38'47	
	5019 Oct 22 10:14	0°♂			5025 May 22 00:12	0°♂	
evening set	5019 Dec 24 13:32	12°♂16'46		evening set	5025 Jun 14 03:24	5°♂23'16	
max. Earth dist.	5020 Jan 04 04:07	14°♂36'49	6.39025 AU				
				conjunction	5025 Jun 27 17:54	8°♂37'51	0°-31'-2
conjunction	5020 Jan 06 07:49	15°♂05'21	0°25'52	minimum elong	5025 Jun 27 17:56	8°♂37'53	0°31'04
minimum elong	5020 Jan 06 07:50	15°♂05'22	0°25'54	max. Earth dist.	5025 Jun 29 23:27	9°♂09'50	5.98508 AU
morning rise	5020 Jan 19 00:25	17°♂53'17		morning rise	5025 Jul 11 10:42	11°♂53'29	
	5020 Mar 20 13:18	0°♂			5025 Oct 14 09:12	0°♂	
retrograde	5020 May 20 03:39	5°♂12'43		retrograde	5025 Nov 19 00:05	2°♂01'07	
opposition	5020 Jul 20 00:53	0°♂20'31	0°16'35		5025 Dec 24 08:57	30°♂48'00	
min. Earth dist.	5020 Jul 21 15:23	0°♂08'14	4.32891 AU	min. Earth dist.	5026 Jan 16 00:43	27°♂08'43	4.04317 AU
	5020 Jul 22 17:11	30°♂30'00		opposition	5026 Jan 17 12:51	26°♂56'24	0°-21'-42
direct	5020 Sep 20 06:02	25°♂21'00		direct	5026 Mar 16 20:54	21°♂58'48	
	5020 Nov 16 15:51	0°♂			5026 May 30 06:34	0°♂	
desc. node	5020 Dec 09 15:30	3°♂55'09		asc. node	5026 Jul 04 23:20	7°♂26'40	
evening set	5021 Jan 23 18:03	13°♂26'05		evening set	5026 Jul 21 07:39	11°♂09'15	
	5021 Jan 30 15:46	15°♂					
max. Earth dist.	5021 Feb 03 08:23	15°♂50'26	6.25691 AU	conjunction	5026 Aug 04 00:57	14°♂19'07	0°02'39
				minimum elong	5026 Aug 04 00:56	14°♂19'06	0°02'38
conjunction	5021 Feb 05 11:20	16°♂19'27	0°-4'-43	behind sun begin	5026 Aug 03 16:34	14°♂14'18	
minimum elong	5021 Feb 05 11:20	16°♂19'27	0°04'44	behind sun end	5026 Aug 04 09:18	14°♂23'55	
behind sun begin	5021 Feb 05 03:32	16°♂15'01		max. Earth dist.	5026 Aug 06 09:09	14°♂25'13	6.11439 AU
behind sun end	5021 Feb 05 19:08	16°♂23'52			5026 Aug 06 23:48	15°♂	
morning rise	5021 Feb 18 03:49	19°♂12'43		morning rise	5026 Aug 17 19:07	17°♂29'05	
	5021 Apr 10 13:52	0°♂			5026 Oct 17 01:46	0°♂	
retrograde	5021 Jun 23 05:31	7°♂30'55		retrograde	5026 Dec 23 00:35	6°♂28'27	
opposition	5021 Aug 22 23:12	2°♂37'23	0°-30'-22	min. Earth dist.	5027 Feb 19 10:55	1°♂35'43	4.19161 AU
min. Earth dist.	5021 Aug 24 07:11	2°♂27'06	4.17897 AU	opposition	5027 Feb 20 18:42	1°♂24'59	0°28'27
	5021 Sep 13 10:46	30°♂40'09			5027 Mar 03 10:09	30°♂40'09	
direct	5021 Oct 23 00:08	27°♂40'09		direct	5027 Apr 21 04:37	26°♂24'46	
	5021 Dec 01 01:28	0°♂			5027 Jun 09 01:08	0°♂	
evening set	5022 Feb 25 13:20	16°♂27'47		evening set	5027 Aug 25 18:40	14°♂51'54	
max. Earth dist.	5022 Mar 08 20:39	19°♂07'14	6.10260 AU				
				conjunction	5027 Sep 08 09:18	17°♂53'44	0°33'50
conjunction	5022 Mar 10 08:05	19°♂28'07	0°-35'-8	minimum elong	5027 Sep 08 09:16	17°♂53'43	0°33'50
minimum elong	5022 Mar 10 08:03	19°♂28'06	0°35'09	max. Earth dist.	5027 Sep 09 22:54	18°♂14'42	6.26933 AU
morning rise	5022 Mar 23 03:38	22°♂29'09		morning rise	5027 Sep 21 23:10	20°♂54'53	
	5022 Apr 25 09:46	0°♂			5027 Nov 04 13:11	0°♂	
retrograde	5022 Jul 29 20:52	11°♂59'21		retrograde	5028 Jan 23 20:33	8°♂46'02	
opposition	5022 Sep 28 04:06	7°♂03'07	-1°-10'-23	opposition	5028 Mar 23 21:05	3°♂45'43	1°06'09
min. Earth dist.	5022 Sep 28 19:18	6°♂58'08	4.03268 AU	min. Earth dist.	5028 Mar 23 05:00	3°♂51'04	4.33949 AU
direct	5022 Nov 26 19:03	2°♂08'09			5028 Apr 25 02:20	30°♂40'09	
evening set	5023 Apr 01 11:30	21°♂37'32		direct	5028 May 23 16:25	28°♂43'51	
					5028 Jun 21 13:47	0°♂	
conjunction	5023 Apr 14 11:13	24°♂45'32	0°-54'-35	evening set	5028 Sep 27 03:33	16°♂33'30	
minimum elong	5023 Apr 14 11:12	24°♂45'31	0°54'36				
max. Earth dist.	5023 Apr 14 06:14	24°♂42'32	5.97779 AU	conjunction	5028 Oct 10 12:22	19°♂27'32	0°53'17
morning rise	5023 Apr 27 12:57	27°♂54'52		minimum elong	5028 Oct 10 12:21	19°♂27'31	0°53'17
	5023 May 06 06:37	0°♂		max. Earth dist.	5028 Oct 10 23:19	19°♂33'29	6.39882 AU
	5023 Jul 20 23:01	15°♂		morning rise	5028 Oct 23 19:05	22°♂20'24	
retrograde	5023 Sep 06 03:23	18°♂24'21			5028 Nov 29 23:58	0°♂	
	5023 Oct 23 20:45	15°♂40'09		retrograde	5029 Feb 22 03:11	9°♂22'50	
opposition	5023 Nov 05 00:21	13°♂24'32	-1°-25'-46	opposition	5029 Apr 23 13:27	4°♂26'04	1°22'58
min. Earth dist.	5023 Nov 04 15:43	13°♂27'24	3.94313 AU	min. Earth dist.	5029 Apr 23 15:11	4°♂25'30	4.44249 AU
direct	5024 Jan 02 08:41	8°♂30'42			5029 Jun 04 13:48	30°♂40'09	
	5024 Mar 07 07:42	15°♂		direct	5029 Jun 24 11:23	29°♂23'42	

	5029 Jul 14 14:42	0°♍	evening set	5035 Apr 06 11:05	26°♑44'08	
	5029 Oct 20 01:53	15°♍				
evening set	5029 Oct 28 18:13	16°♍50'26	conjunction	5035 Apr 19 11:32	29°♑53'04	0°-55'-46
			minimum elong	5035 Apr 19 11:31	29°♑53'03	0°55'48
conjunction	5029 Nov 10 20:36	19°♍39'13	max. Earth dist.	5035 Apr 19 09:43	29°♑51'58	5.96576 AU
minimum elong	5029 Nov 10 20:37	19°♍39'13		5035 Apr 19 22:59	0°♄	
max. Earth dist.	5029 Nov 10 03:21	19°♍29'56	morning rise	5035 May 02 14:28	3°♄03'27	
morning rise	5029 Nov 23 20:24	22°♍26'45		5035 Jun 25 03:22	15°♄	
	5029 Dec 30 21:10	0°♄	retrograde	5035 Sep 11 10:05	23°♄38'22	
retrograde	5030 Mar 24 01:25	9°♄07'39	opposition	5035 Nov 10 06:30	18°♄37'59	-1°-25'-10
opposition	5030 May 23 18:31	4°♄13'46	min. Earth dist.	5035 Nov 09 18:24	18°♄42'02	3.93683 AU
min. Earth dist.	5030 May 24 15:00	4°♄07'11		5035 Dec 11 00:12	15°♄♌	
	5030 Jul 02 03:31	30°♄♍	direct	5036 Jan 07 12:10	13°♄44'04	
direct	5030 Jul 25 10:07	29°♍11'44		5036 Feb 03 21:33	15°♄	
	5030 Aug 17 19:47	0°♄		5036 Apr 27 08:25	0°♄♌	
evening set	5030 Nov 28 08:34	16°♄34'04	evening set	5036 May 12 13:13	3°♄♌37'42	
max. Earth dist.	5030 Dec 09 13:08	18°♄59'10				
		6.45930 AU	conjunction	5036 May 25 21:41	6°♄51'57	0°-51'-28
conjunction	5030 Dec 11 05:44	19°♄21'10	minimum elong	5036 May 25 21:42	6°♄51'58	0°51'29
minimum elong	5030 Dec 11 05:45	19°♄21'10	max. Earth dist.	5036 May 27 07:34	7°♄12'32	5.93197 AU
morning rise	5030 Dec 24 00:37	22°♄07'13	morning rise	5036 Jun 08 08:54	10°♄07'42	
	5031 Jan 31 11:06	0°♄		5036 Sep 25 17:40	0°♄♌	
retrograde	5031 Apr 23 14:03	8°♄55'56	retrograde	5036 Oct 18 15:37	0°♄51'18	
opposition	5031 Jun 23 11:36	4°♄03'34		5036 Nov 10 08:11	30°♄♌	
min. Earth dist.	5031 Jun 24 21:09	3°♄52'51	min. Earth dist.	5036 Dec 15 22:14	25°♄57'53	3.95366 AU
	5031 Jul 30 18:03	30°♄♌♄	opposition	5036 Dec 17 04:10	25°♄47'43	-1°-1'-32
direct	5031 Aug 25 04:34	29°♄02'30	direct	5037 Feb 13 01:34	20°♄52'26	
	5031 Sep 19 16:54	0°♄		5037 May 02 23:18	0°♄♌	
evening set	5031 Dec 28 20:17	16°♄39'52	evening set	5037 Jun 19 08:43	10°♄34'15	
max. Earth dist.	5032 Jan 08 11:14	19°♄00'32				
		6.37573 AU	conjunction	5037 Jul 02 23:55	13°♄48'37	0°-26'-41
conjunction	5032 Jan 10 14:25	19°♄28'54	minimum elong	5037 Jul 02 23:56	13°♄48'38	0°26'42
minimum elong	5032 Jan 10 14:26	19°♄28'54	max. Earth dist.	5037 Jul 05 07:23	14°♄21'36	5.99715 AU
morning rise	5032 Jan 23 06:40	22°♄17'17	morning rise	5037 Jul 16 17:23	17°♄03'56	
	5032 Feb 28 21:33	0°♄♌		5037 Sep 14 23:57	0°♄♌	
retrograde	5032 May 24 16:37	9°♄42'51	retrograde	5037 Nov 23 21:15	7°♄04'10	
opposition	5032 Jul 24 14:43	4°♄50'29	min. Earth dist.	5038 Jan 20 21:34	2°♄12'09	4.05961 AU
min. Earth dist.	5032 Jul 26 04:28	4°♄38'26	opposition	5038 Jan 22 10:43	1°♄59'31	0°-14'-30
	5032 Sep 14 22:04	30°♄♌♌		5038 Feb 06 12:55	30°♄♌♌	
direct	5032 Sep 24 16:29	29°♄51'13	direct	5038 Mar 21 20:19	27°♄01'34	
	5032 Oct 04 11:04	0°♄♌		5038 May 04 04:44	0°♄♌	
desc. node	5032 Oct 19 15:27	0°♄47'42	asc. node	5038 May 14 17:44	1°♄29'18	
	5033 Jan 14 17:13	15°♄♌		5038 Jul 21 11:46	15°♄♌	
evening set	5033 Jan 28 04:31	18°♄00'58	evening set	5038 Jul 26 09:29	16°♄07'04	
max. Earth dist.	5033 Feb 07 19:25	20°♄26'18				
		6.23752 AU	conjunction	5038 Aug 09 02:39	19°♄16'02	0°07'27
conjunction	5033 Feb 09 21:40	20°♄55'04	minimum elong	5038 Aug 09 02:38	19°♄16'01	0°07'26
minimum elong	5033 Feb 09 21:40	20°♄55'04	behind sun begin	5038 Aug 08 19:02	19°♄11'40	
behind sun begin	5033 Feb 09 14:53	20°♄51'12	behind sun end	5038 Aug 09 10:14	19°♄20'22	
behind sun end	5033 Feb 10 04:27	20°♄58'55	max. Earth dist.	5038 Aug 11 08:36	19°♄47'02	6.13382 AU
morning rise	5033 Feb 22 14:28	23°♄49'13	morning rise	5038 Aug 22 20:34	22°♄24'59	
	5033 Mar 22 13:18	0°♄♌		5038 Sep 26 12:48	0°♄♌	
retrograde	5033 Jun 28 04:22	12°♄16'20	retrograde	5038 Dec 27 15:39	11°♄14'59	
opposition	5033 Aug 27 20:10	7°♄22'27	min. Earth dist.	5039 Feb 24 03:58	6°♄21'53	4.21228 AU
min. Earth dist.	5033 Aug 29 03:01	7°♄12'29	opposition	5039 Feb 25 09:34	6°♄11'54	0°34'47
direct	5033 Oct 27 17:34	2°♄25'27	direct	5039 Apr 26 00:51	1°♄11'26	
evening set	5034 Mar 02 05:43	21°♄18'42	evening set	5039 Aug 30 13:56	19°♄33'01	
max. Earth dist.	5034 Mar 13 17:13	24°♄01'14				
		6.08338 AU	conjunction	5039 Sep 13 04:00	22°♄33'44	0°37'25
conjunction	5034 Mar 15 01:02	24°♄20'04	minimum elong	5039 Sep 13 03:59	22°♄33'43	0°37'25
minimum elong	5034 Mar 15 01:00	24°♄20'03	max. Earth dist.	5039 Sep 14 16:16	22°♄53'52	6.28992 AU
morning rise	5034 Mar 27 21:08	27°♄22'10	morning rise	5039 Sep 26 16:52	25°♄33'37	
	5034 Apr 08 03:38	0°♄♌		5039 Oct 17 06:31	0°♄♌	
retrograde	5034 Aug 04 01:18	17°♄01'34	retrograde	5040 Jan 28 03:17	13°♄16'25	
opposition	5034 Oct 03 07:19	12°♄04'53	opposition	5040 Mar 28 05:59	8°♄16'36	1°09'51
min. Earth dist.	5034 Oct 03 19:33	12°♄00'53	min. Earth dist.	5040 Mar 27 14:54	8°♄21'36	4.35870 AU
direct	5034 Dec 01 16:39	7°♄10'11	direct	5040 May 28 04:32	3°♄14'42	

evening set	5040 Oct 01 15:52	20°♄59'29		retrograde	5046 Aug 09 04:42	22°♃02'14	
				opposition	5046 Oct 08 09:21	17°♃05'04	-1°-17'-42
conjunction	5040 Oct 14 23:36	23°♄52'27	0°54'47	min. Earth dist.	5046 Oct 08 18:31	17°♃02'03	3.99553 AU
minimum elong	5040 Oct 14 23:35	23°♄52'27	0°54'48	direct	5046 Dec 06 13:49	12°♃10'32	
max. Earth dist.	5040 Oct 15 06:25	23°♄56'09	6.41535 AU		5047 Apr 03 17:17	0°♄	
morning rise	5040 Oct 28 05:18	26°♄44'15		evening set	5047 Apr 11 10:21	1°♄51'06	
	5040 Nov 12 14:05	0°♄					
retrograde	5041 Feb 26 07:53	13°♄41'00		conjunction	5047 Apr 24 12:05	5°♄01'21	0°-56'-31
opposition	5041 Apr 27 18:42	8°♄44'42	1°23'27	minimum elong	5047 Apr 24 12:05	5°♄01'21	0°56'33
min. Earth dist.	5041 Apr 27 23:35	8°♄43'07	4.45536 AU	max. Earth dist.	5047 Apr 24 16:10	5°♄03'50	5.94927 AU
direct	5041 Jun 28 21:09	3°♄42'22		morning rise	5047 May 07 16:07	8°♄13'03	
	5041 Oct 03 11:10	15°♄			5047 Jun 05 14:28	15°♄	
evening set	5041 Nov 02 00:48	21°♄05'56		retrograde	5047 Sep 16 20:23	28°♄55'11	
max. Earth dist.	5041 Nov 14 05:43	23°♄42'58	6.47588 AU	opposition	5047 Nov 15 13:21	23°♄54'19	-1°-23'-54
				min. Earth dist.	5047 Nov 14 23:01	23°♄59'08	3.92663 AU
conjunction	5041 Nov 15 02:20	23°♄54'04	0°56'30	direct	5048 Jan 12 16:18	19°♄00'22	
minimum elong	5041 Nov 15 02:20	23°♄54'04	0°56'30		5048 Apr 09 01:59	0°♄	
morning rise	5041 Nov 28 01:14	26°♄40'56		evening set	5048 May 17 19:32	8°♄56'52	
	5041 Dec 13 19:06	0°♄					
retrograde	5042 Mar 28 03:25	13°♄19'40		conjunction	5048 May 31 05:08	12°♄11'50	0°-49'-2
opposition	5042 May 27 22:24	8°♄26'03	1°14'48	minimum elong	5048 May 31 05:10	12°♄11'51	0°49'04
min. Earth dist.	5042 May 28 20:25	8°♄18'59	4.47719 AU	max. Earth dist.	5048 Jun 01 18:58	12°♄34'48	5.92903 AU
direct	5042 Jul 29 14:53	3°♄24'05		morning rise	5048 Jun 13 17:44	15°♄28'19	
evening set	5042 Dec 02 11:57	20°♄45'45			5048 Aug 20 04:53	0°♄	
max. Earth dist.	5042 Dec 13 14:39	23°♄09'55	6.45694 AU	retrograde	5048 Oct 23 21:08	6°♄11'04	
				min. Earth dist.	5048 Dec 21 00:38	1°♄18'22	3.95845 AU
conjunction	5042 Dec 15 08:34	23°♄32'41	0°43'12	opposition	5048 Dec 22 09:40	1°♄07'08	0°-55'-52
minimum elong	5042 Dec 15 08:35	23°♄32'41	0°43'13		5048 Dec 30 17:08	30°♄	
morning rise	5042 Dec 28 02:45	26°♄18'36		direct	5049 Feb 18 05:57	26°♄11'32	
	5043 Jan 14 11:39	0°♄			5049 Apr 07 23:53	0°♄	
retrograde	5043 Apr 27 19:02	13°♄09'10		evening set	5049 Jun 24 16:37	15°♄51'15	
opposition	5043 Jun 27 17:29	8°♄16'56	0°46'28				
min. Earth dist.	5043 Jun 29 04:45	8°♄05'41	4.41866 AU	conjunction	5049 Jul 08 08:29	19°♄05'22	0°-22'-4
direct	5043 Aug 29 10:07	3°♄16'04		minimum elong	5049 Jul 08 08:30	19°♄05'22	0°22'05
evening set	5044 Jan 01 23:48	20°♄55'34		max. Earth dist.	5049 Jul 10 17:10	19°♄38'58	6.00913 AU
max. Earth dist.	5044 Jan 12 11:40	23°♄15'03	6.36259 AU	morning rise	5049 Jul 22 02:31	22°♄20'19	
					5049 Aug 24 23:53	0°♄	
conjunction	5044 Jan 14 17:28	23°♄44'58	0°18'00	retrograde	5049 Nov 28 20:54	12°♄12'41	
minimum elong	5044 Jan 14 17:29	23°♄44'58	0°18'00	min. Earth dist.	5050 Jan 25 21:32	7°♄20'30	4.07703 AU
morning rise	5044 Jan 27 09:44	26°♄33'51		opposition	5050 Jan 27 10:22	7°♄07'58	0°-7'-7
	5044 Feb 12 03:36	0°♄		asc. node	5050 Mar 23 14:49	2°♄10'43	
retrograde	5044 May 29 04:23	14°♄05'40		direct	5050 Mar 27 00:23	2°♄09'32	
opposition	5044 Jul 29 01:38	9°♄13'10	0°03'58		5050 Jul 03 18:38	15°♄	
min. Earth dist.	5044 Jul 30 15:55	9°♄00'55	4.29354 AU	evening set	5050 Jul 31 12:50	21°♄09'17	
desc. node	5044 Aug 31 16:02	5°♄26'41					
direct	5044 Sep 29 00:38	4°♄14'03		conjunction	5050 Aug 14 06:01	24°♄17'14	0°12'14
	5044 Dec 29 03:44	15°♄		minimum elong	5050 Aug 14 06:00	24°♄17'13	0°12'14
evening set	5045 Feb 01 11:53	22°♄29'01		behind sun begin	5050 Aug 14 00:32	24°♄14'07	
max. Earth dist.	5045 Feb 12 04:33	24°♄56'00	6.21634 AU	behind sun end	5050 Aug 14 11:27	24°♄20'20	
				max. Earth dist.	5050 Aug 16 12:39	24°♄48'29	6.15507 AU
conjunction	5045 Feb 14 05:18	25°♄24'02	0°-13'-27	morning rise	5050 Aug 27 23:24	27°♄24'59	
minimum elong	5045 Feb 14 05:17	25°♄24'01	0°13'26		5050 Sep 08 11:42	0°♄	
behind sun begin	5045 Feb 14 00:39	25°♄21'22		retrograde	5051 Jan 01 06:14	16°♄04'36	
behind sun end	5045 Feb 14 09:56	25°♄26'41		min. Earth dist.	5051 Feb 28 20:32	11°♄11'32	4.23492 AU
morning rise	5045 Feb 26 22:13	28°♄19'08		opposition	5051 Mar 02 01:29	11°♄01'47	0°40'55
	5045 Mar 06 07:31	0°♄		direct	5051 Apr 30 20:35	6°♄01'00	
retrograde	5045 Jul 02 23:56	16°♄56'08		evening set	5051 Sep 04 10:02	24°♄16'08	
opposition	5045 Sep 01 14:18	12°♄01'59	0°-42'-41				
min. Earth dist.	5045 Sep 02 20:04	11°♄52'22	4.13574 AU	conjunction	5051 Sep 17 23:07	27°♄15'32	0°40'47
direct	5045 Nov 01 06:17	7°♄05'17		minimum elong	5051 Sep 17 23:06	27°♄15'31	0°40'46
evening set	5046 Mar 06 20:29	26°♄05'43		max. Earth dist.	5051 Sep 19 06:40	27°♄32'58	6.31175 AU
max. Earth dist.	5046 Mar 18 09:54	28°♄50'15	6.06040 AU		5051 Sep 30 09:29	0°♄	
				morning rise	5051 Oct 01 11:09	0°♄14'05	
conjunction	5046 Mar 19 16:13	29°♄08'17	0°-42'00	retrograde	5052 Feb 01 11:52	17°♄48'10	
minimum elong	5046 Mar 19 16:12	29°♄08'16	0°42'01	opposition	5052 Apr 01 15:33	12°♄48'45	1°13'08
	5046 Mar 23 07:08	0°♄		min. Earth dist.	5052 Apr 01 03:44	12°♄52'40	4.37786 AU
morning rise	5046 Apr 01 13:17	2°♄11'48		direct	5052 Jun 01 19:21	7°♄46'38	

evening set	5052 Oct 06 04:32	25°♄26'36		conjunction	5058 Mar 24 14:25	4°♃12'56	0°-45'-10
				minimum elong	5058 Mar 24 14:23	4°♃12'56	0°45'10
conjunction	5052 Oct 19 11:29	28°♄18'37	0°55'58	max. Earth dist.	5058 Mar 23 13:32	3°♃58'04	6.03899 AU
minimum elong	5052 Oct 19 11:28	28°♄18'36	0°55'59	morning rise	5058 Apr 06 12:10	7°♃17'45	
max. Earth dist.	5052 Oct 19 15:30	28°♄20'47	6.43027 AU	retrograde	5058 Aug 14 16:27	27°♃18'23	
	5052 Oct 27 07:05	0°♄		opposition	5058 Oct 13 18:01	22°♃20'50	-1°-20'-38
morning rise	5052 Nov 01 15:59	1°♄09'22		min. Earth dist.	5058 Oct 14 00:31	22°♃18'41	3.97895 AU
	5053 Jan 16 10:34	15°♄		direct	5058 Dec 11 18:21	17°♃26'35	
retrograde	5053 Mar 02 11:39	18°♄01'06			5059 Mar 16 21:34	0°♄	
	5053 Apr 16 21:29	15°♄		evening set	5059 Apr 16 15:51	7°♄11'54	
opposition	5053 May 02 00:47	13°♄05'12	1°23'30				
min. Earth dist.	5053 May 02 07:25	13°♄03'03	4.46517 AU	conjunction	5059 Apr 29 18:33	10°♄23'07	0°-56'-51
direct	5053 Jul 03 05:10	8°♄02'52		minimum elong	5059 Apr 29 18:33	10°♄23'07	0°56'53
	5053 Sep 14 07:42	15°♄		max. Earth dist.	5059 Apr 30 03:07	10°♄28'20	5.93920 AU
evening set	5053 Nov 06 08:34	25°♄24'18		morning rise	5059 May 12 23:56	13°♄35'53	
max. Earth dist.	5053 Nov 18 08:24	27°♄58'37	6.47978 AU		5059 May 18 19:38	15°♄	
					5059 Jul 30 15:53	0°♄	
conjunction	5053 Nov 19 09:11	28°♄11'57	0°55'27	retrograde	5059 Sep 22 07:16	4°♄21'54	
minimum elong	5053 Nov 19 09:12	28°♄11'57	0°55'28		5059 Nov 16 02:16	30°♄	
	5053 Nov 27 18:14	0°♄		opposition	5059 Nov 20 23:52	29°♄20'33	-1°-21'-51
morning rise	5053 Dec 02 07:21	0°♄58'24		min. Earth dist.	5059 Nov 20 05:03	29°♄26'53	3.92478 AU
retrograde	5054 Apr 01 10:09	17°♄36'30		direct	5060 Jan 17 23:10	24°♄26'33	
opposition	5054 Jun 01 04:56	12°♄43'11	1°11'51		5060 Mar 17 11:50	0°♄	
min. Earth dist.	5054 Jun 02 06:11	12°♄35'06	4.47491 AU	evening set	5060 May 23 04:59	14°♄22'36	
direct	5054 Aug 02 23:24	7°♄41'18					
evening set	5054 Dec 06 17:59	25°♄03'55		conjunction	5060 Jun 05 15:40	17°♄37'47	0°-46'-10
max. Earth dist.	5054 Dec 17 16:43	27°♄26'18	6.44853 AU	minimum elong	5060 Jun 05 15:41	17°♄37'48	0°46'12
				max. Earth dist.	5060 Jun 07 09:32	18°♄03'10	5.93558 AU
conjunction	5054 Dec 19 14:04	27°♄50'58	0°40'14	morning rise	5060 Jun 19 05:15	20°♄54'24	
minimum elong	5054 Dec 19 14:05	27°♄50'59	0°40'15		5060 Jul 28 21:53	0°♄	
	5054 Dec 29 11:27	0°♄		retrograde	5060 Oct 29 03:10	11°♄32'11	
morning rise	5055 Jan 01 07:53	0°♄37'04		min. Earth dist.	5060 Dec 26 05:26	6°♄39'36	3.97253 AU
retrograde	5055 May 02 04:45	17°♄31'35		opposition	5060 Dec 27 15:42	6°♄27'56	0°-49'-42
opposition	5055 Jul 02 03:34	12°♄39'22	0°41'08	direct	5061 Feb 23 14:24	1°♄31'58	
min. Earth dist.	5055 Jul 03 15:36	12°♄27'52	4.40463 AU	evening set	5061 Jun 29 23:48	21°♄06'09	
direct	5055 Sep 02 17:47	7°♄38'39					
evening set	5056 Jan 06 07:54	25°♄22'18		conjunction	5061 Jul 13 16:15	24°♄19'33	0°-17'-20
max. Earth dist.	5056 Jan 16 20:21	27°♄42'40	6.34401 AU	minimum elong	5061 Jul 13 16:16	24°♄19'34	0°17'22
				max. Earth dist.	5061 Jul 16 03:40	24°♄54'35	6.02934 AU
conjunction	5056 Jan 19 01:30	28°♄12'21	0°13'46	morning rise	5061 Jul 27 10:23	27°♄33'36	
minimum elong	5056 Jan 19 01:30	28°♄12'21	0°13'47		5061 Aug 06 23:10	0°♄	
behind sun begin	5056 Jan 18 21:11	28°♄09'57			5061 Oct 26 22:14	15°♄	
behind sun end	5056 Jan 19 05:50	28°♄14'45		retrograde	5061 Dec 03 17:55	17°♄15'14	
	5056 Jan 27 02:16	0°♄			5062 Jan 10 06:41	15°♄	
morning rise	5056 Jan 31 17:33	1°♄01'55		min. Earth dist.	5062 Jan 30 18:52	12°♄23'08	4.10101 AU
	5056 Apr 13 15:12	15°♄		asc. node	5062 Jan 31 08:23	12°♄18'32	
retrograde	5056 Jun 02 22:27	18°♄41'51		opposition	5062 Feb 01 07:34	12°♄10'40	0°00'07
desc. node	5056 Jul 11 01:53	16°♄32'47		direct	5062 Apr 01 00:57	7°♄11'53	
	5056 Jul 24 10:46	15°♄			5062 Jun 14 00:11	15°♄	
opposition	5056 Aug 02 18:30	13°♄49'15	0°-2'-40	evening set	5062 Aug 05 13:27	26°♄04'09	
min. Earth dist.	5056 Aug 04 08:58	13°♄36'57	4.27147 AU				
direct	5056 Oct 03 13:52	8°♄50'29		conjunction	5062 Aug 19 06:05	29°♄10'45	0°16'48
	5056 Dec 08 21:47	15°♄		minimum elong	5062 Aug 19 06:04	29°♄10'44	0°16'48
evening set	5057 Feb 06 01:28	27°♄11'57		max. Earth dist.	5062 Aug 21 09:11	29°♄39'47	6.18045 AU
max. Earth dist.	5057 Feb 16 18:21	29°♄39'54	6.19248 AU		5062 Aug 22 20:45	0°♄	
				morning rise	5062 Sep 01 23:02	2°♄17'07	
conjunction	5057 Feb 18 18:56	0°♄07'59	0°-17'-53	retrograde	5063 Jan 05 16:40	20°♄45'39	
minimum elong	5057 Feb 18 18:55	0°♄07'59	0°17'55	min. Earth dist.	5063 Mar 05 11:15	15°♄52'10	4.25940 AU
	5057 Feb 18 05:07	0°♄		opposition	5063 Mar 06 13:50	15°♄43'13	0°46'34
morning rise	5057 Mar 03 12:26	3°♄04'18		direct	5063 May 05 13:53	10°♄42'09	
retrograde	5057 Jul 08 02:28	21°♄52'20		evening set	5063 Sep 09 02:14	28°♄50'48	
opposition	5057 Sep 06 15:43	16°♄57'49	0°-48'-47		5063 Sep 14 08:33	0°♄	
min. Earth dist.	5057 Sep 07 18:50	16°♄49'01	4.11194 AU				
direct	5057 Nov 06 02:04	12°♄01'28		conjunction	5063 Sep 22 14:39	1°♄48'58	0°43'46
	5058 Mar 06 20:50	0°♄		minimum elong	5063 Sep 22 14:37	1°♄48'57	0°43'46
evening set	5058 Mar 11 17:52	1°♄09'06		max. Earth dist.	5063 Sep 23 19:20	2°♄04'45	6.33345 AU
				morning rise	5063 Oct 06 01:29	4°♄46'10	

retrograde	5064 Feb 05 16:44	22°♄12'15		direct	5069 Nov 11 01:38	17°♃03'33	
opposition	5064 Apr 05 21:59	17°♄13'24	1°15'53		5070 Feb 17 11:49	0°♃	
min. Earth dist.	5064 Apr 05 12:33	17°♄16'31	4.39527 AU	evening set	5070 Mar 16 17:24	6°♃17'26	
direct	5064 Jun 06 05:23	12°♄11'15					
evening set	5064 Oct 10 14:05	29°♄47'14		conjunction	5070 Mar 29 14:32	9°♃22'21	0°-47'-59
	5064 Oct 11 13:54	0°♄		minimum elong	5070 Mar 29 14:30	9°♃22'20	0°48'01
				max. Earth dist.	5070 Mar 28 17:13	9°♃09'35	6.02100 AU
conjunction	5064 Oct 23 19:56	2°♄38'24	0°56'50	morning rise	5070 Apr 11 13:19	12°♃28'23	
minimum elong	5064 Oct 23 19:55	2°♄38'24	0°56'50		5070 Jul 09 21:09	0°♄	
max. Earth dist.	5064 Oct 23 17:52	2°♄37'17	6.44198 AU	retrograde	5070 Aug 20 02:03	2°♄37'15	
morning rise	5064 Nov 05 23:37	5°♄28'21			5070 Sep 30 14:44	30°♄♃	
	5064 Dec 23 16:57	15°♄		opposition	5070 Oct 19 03:16	27°♃39'07	-1°-22'-54
retrograde	5065 Mar 06 16:00	22°♄16'33		min. Earth dist.	5070 Oct 19 04:58	27°♃38'33	3.96713 AU
opposition	5065 May 06 05:03	17°♄21'06	1°23'08	direct	5070 Dec 16 22:33	22°♃45'00	
min. Earth dist.	5065 May 06 15:32	17°♄17'42	4.47069 AU		5071 Feb 24 07:14	0°♄	
	5065 May 25 02:56	15°♄♄		evening set	5071 Apr 21 21:37	12°♄32'59	
direct	5065 Jul 07 12:48	12°♄18'44			5071 May 01 23:40	15°♄	
	5065 Aug 20 04:09	15°♄					
evening set	5065 Nov 10 14:22	29°♄39'31		conjunction	5071 May 05 01:22	15°♄44'53	0°-56'-43
	5065 Nov 12 04:45	0°♄♂		minimum elong	5071 May 05 01:22	15°♄44'54	0°56'44
max. Earth dist.	5065 Nov 22 10:39	2°♄♂12'00	6.47869 AU	max. Earth dist.	5071 May 05 15:40	15°♄53'36	5.93459 AU
				morning rise	5071 May 18 07:49	18°♄58'22	
conjunction	5065 Nov 23 14:26	2°♄♂26'57	0°54'09		5071 Jul 05 23:30	0°♄♂	
minimum elong	5065 Nov 23 14:27	2°♄♂26'57	0°54'10	retrograde	5071 Sep 27 16:57	9°♄45'39	
morning rise	5065 Dec 06 11:46	5°♄♂13'10		min. Earth dist.	5071 Nov 25 11:55	4°♄50'52	3.92781 AU
retrograde	5066 Apr 05 14:25	21°♄52'21		opposition	5071 Nov 26 09:04	4°♄43'44	-1°-19'-5
opposition	5066 Jun 05 10:35	16°♄59'16	1°08'37		5072 Jan 13 07:53	30°♄♂	
min. Earth dist.	5066 Jun 06 13:11	16°♄50'45	4.46750 AU	direct	5072 Jan 23 08:10	29°♄49'32	
direct	5066 Aug 07 03:53	11°♄57'31			5072 Feb 02 08:28	0°♄♂	
evening set	5066 Dec 10 23:52	29°♄22'46		evening set	5072 May 28 12:49	19°♄43'14	
	5066 Dec 13 20:37	0°♄♂					
max. Earth dist.	5066 Dec 21 20:19	1°♄♂44'24	6.43532 AU	conjunction	5072 Jun 11 00:34	22°♄58'24	0°-42'-56
				minimum elong	5072 Jun 11 00:36	22°♄58'25	0°42'58
conjunction	5066 Dec 23 19:27	2°♄♂10'08	0°37'06	max. Earth dist.	5072 Jun 12 23:11	23°♄26'32	5.94585 AU
minimum elong	5066 Dec 23 19:29	2°♄♂10'09	0°37'06	morning rise	5072 Jun 24 14:57	26°♄14'53	
morning rise	5067 Jan 05 12:56	4°♄♂56'38			5072 Jul 10 12:16	0°♄♂	
retrograde	5067 May 06 17:12	21°♄56'41		retrograde	5072 Nov 03 06:44	16°♄46'00	
opposition	5067 Jul 06 14:40	17°♄04'32	0°35'35	min. Earth dist.	5072 Dec 31 07:18	11°♄53'37	3.98885 AU
min. Earth dist.	5067 Jul 08 04:36	16°♄52'27	4.38633 AU	opposition	5073 Jan 01 18:40	11°♄41'35	0°-43'-14
direct	5067 Sep 07 03:48	12°♄04'04		direct	5073 Feb 28 18:57	6°♄45'15	
evening set	5068 Jan 10 17:04	29°♄53'04		evening set	5073 Jul 05 04:45	26°♄13'33	
	5068 Jan 11 05:32	0°♄♂					
max. Earth dist.	5068 Jan 21 04:10	2°♄♂13'26	6.32202 AU	conjunction	5073 Jul 18 21:21	29°♄26'07	0°-12'-33
				minimum elong	5073 Jul 18 21:22	29°♄26'07	0°12'35
conjunction	5068 Jan 23 10:31	2°♄♂43'56	0°09'27	behind sun begin	5073 Jul 18 16:06	29°♄23'03	
minimum elong	5068 Jan 23 10:31	2°♄♂43'56	0°09'28	behind sun end	5073 Jul 19 02:37	29°♄29'12	
behind sun begin	5068 Jan 23 03:51	2°♄♂40'13		max. Earth dist.	5073 Jul 21 07:23	0°♄00'09	6.04994 AU
behind sun end	5068 Jan 23 17:11	2°♄♂47'39			5073 Jul 21 07:08	0°♄	
morning rise	5068 Feb 05 02:45	5°♄♂34'26		morning rise	5073 Aug 01 15:47	2°♄39'15	
	5068 Mar 21 01:29	15°♄♂			5073 Sep 28 18:15	15°♄	
desc. node	5068 May 20 15:11	22°♄53'01		retrograde	5073 Dec 08 10:09	22°♄10'23	
retrograde	5068 Jun 07 17:40	23°♄23'41		asc. node	5073 Dec 11 06:58	22°♄09'33	
opposition	5068 Aug 07 13:29	18°♄30'51	0°-9'-22	min. Earth dist.	5074 Feb 04 13:55	17°♄18'12	4.12368 AU
min. Earth dist.	5068 Aug 09 02:11	18°♄19'05	4.24731 AU	opposition	5074 Feb 06 01:54	17°♄05'58	0°07'14
	5068 Sep 07 01:53	15°♄♂			5074 Feb 22 02:01	15°♄♂	
direct	5068 Oct 08 03:52	13°♄32'24		direct	5074 Apr 05 23:03	12°♄06'48	
	5068 Nov 08 03:29	15°♄♂			5074 May 19 00:13	15°♄	
	5069 Feb 01 21:38	0°♄♂			5074 Aug 06 14:09	0°♄♂	
evening set	5069 Feb 10 17:07	2°♄♂00'53		evening set	5074 Aug 10 11:35	0°♄♂52'26	
max. Earth dist.	5069 Feb 21 14:19	4°♄♂32'06	6.16833 AU				
				conjunction	5074 Aug 24 03:58	3°♄57'52	0°21'12
conjunction	5069 Feb 23 10:57	4°♄♂58'02	0°-22'-16	minimum elong	5074 Aug 24 03:57	3°♄57'51	0°21'12
minimum elong	5069 Feb 23 10:56	4°♄♂58'02	0°22'17	max. Earth dist.	5074 Aug 26 04:52	4°♄25'32	6.20343 AU
morning rise	5069 Mar 08 04:44	7°♄55'31		morning rise	5074 Sep 06 20:07	7°♄02'54	
retrograde	5069 Jul 13 08:13	26°♄54'23		retrograde	5075 Jan 10 03:12	25°♄21'39	
opposition	5069 Sep 11 19:17	21°♄59'32	0°-54'-35	min. Earth dist.	5075 Mar 10 00:43	20°♄27'48	4.28063 AU
min. Earth dist.	5069 Sep 12 20:29	21°♄51'22	4.08987 AU	opposition	5075 Mar 11 00:47	20°♄19'45	0°51'51

direct	5075 May 10 05:32	15° \mathbb{M} 18'30		morning rise	5081 Mar 12 21:36	12° \mathbb{H} 47'59	
	5075 Aug 29 02:03	0° \mathbb{A}			5081 Jun 13 00:26	0° \mathbb{Y}	
evening set	5075 Sep 13 17:21	3° \mathbb{A} 21'52		retrograde	5081 Jul 18 11:02	1° \mathbb{Y} 56'00	
					5081 Aug 23 03:26	30° \mathbb{R} \mathbb{H}	
conjunction	5075 Sep 27 04:50	6° \mathbb{A} 18'57	0°46'30	opposition	5081 Sep 16 22:23	27° \mathbb{H} 00'45	0°-59'-56
minimum elong	5075 Sep 27 04:48	6° \mathbb{A} 18'56	0°46'30	min. Earth dist.	5081 Sep 17 19:30	26° \mathbb{H} 53'53	4.07336 AU
max. Earth dist.	5075 Sep 28 04:17	6° \mathbb{A} 31'48	6.35122 AU	direct	5081 Nov 15 23:16	22° \mathbb{H} 05'08	
morning rise	5075 Oct 10 14:49	9° \mathbb{A} 15'03			5082 Jan 28 23:38	0° \mathbb{Y}	
retrograde	5076 Feb 09 21:37	26° \mathbb{A} 34'41		evening set	5082 Mar 21 15:38	11° \mathbb{Y} 23'13	
opposition	5076 Apr 10 04:12	21° \mathbb{A} 36'19	1°18'14				
min. Earth dist.	5076 Apr 09 21:45	21° \mathbb{A} 38'27	4.40862 AU	conjunction	5082 Apr 03 13:24	14° \mathbb{Y} 28'57	0°-50'-24
direct	5076 Jun 10 15:27	16° \mathbb{A} 34'04		minimum elong	5082 Apr 03 13:23	14° \mathbb{Y} 28'56	0°50'26
	5076 Sep 25 08:35	0° \mathbb{M}		max. Earth dist.	5082 Apr 02 21:31	14° \mathbb{Y} 19'24	6.00887 AU
evening set	5076 Oct 14 23:40	4° \mathbb{M} 07'26		morning rise	5082 Apr 16 12:55	17° \mathbb{Y} 35'52	
					5082 Jun 12 00:22	0° \mathbb{B}	
conjunction	5076 Oct 28 04:49	6° \mathbb{M} 57'58	0°57'22	retrograde	5082 Aug 25 10:15	7° \mathbb{B} 50'45	
minimum elong	5076 Oct 28 04:48	6° \mathbb{M} 57'58	0°57'22	opposition	5082 Oct 24 09:56	2° \mathbb{B} 52'04	-1°-24'-24
max. Earth dist.	5076 Oct 27 23:47	6° \mathbb{M} 55'16	6.45004 AU	min. Earth dist.	5082 Oct 24 09:00	2° \mathbb{B} 52'23	3.96073 AU
morning rise	5076 Nov 10 07:24	9° \mathbb{M} 47'15			5082 Nov 16 13:36	30° \mathbb{R} \mathbb{Y}	
	5076 Dec 05 07:11	15° \mathbb{M}		direct	5082 Dec 22 02:48	27° \mathbb{Y} 58'04	
retrograde	5077 Mar 10 19:37	26° \mathbb{M} 33'04			5083 Jan 26 05:29	0° \mathbb{B}	
opposition	5077 May 10 10:08	21° \mathbb{M} 38'04	1°22'20		5083 Apr 15 10:12	15° \mathbb{B}	
min. Earth dist.	5077 May 10 22:45	21° \mathbb{M} 33'59	4.47315 AU	evening set	5083 Apr 27 00:24	17° \mathbb{B} 46'47	
direct	5077 Jul 11 19:19	16° \mathbb{M} 35'50					
	5077 Oct 27 01:45	0° \mathbb{J}		conjunction	5083 May 10 05:12	20° \mathbb{B} 59'11	0°-56'-6
evening set	5077 Nov 14 21:16	3° \mathbb{J} 56'48		minimum elong	5083 May 10 05:13	20° \mathbb{B} 59'12	0°56'08
				max. Earth dist.	5083 May 11 00:51	21° \mathbb{B} 11'08	5.93449 AU
conjunction	5077 Nov 27 20:29	6° \mathbb{J} 44'05	0°52'31	morning rise	5083 May 23 12:41	24° \mathbb{B} 13'08	
minimum elong	5077 Nov 27 20:30	6° \mathbb{J} 44'06	0°52'32		5083 Jun 17 00:41	0° \mathbb{H}	
max. Earth dist.	5077 Nov 26 12:17	6° \mathbb{J} 26'44	6.47529 AU	retrograde	5083 Oct 02 22:24	14° \mathbb{H} 59'37	
morning rise	5077 Dec 10 17:21	9° \mathbb{J} 30'15		opposition	5083 Dec 01 13:34	9° \mathbb{H} 57'18	-1°-15'-44
retrograde	5078 Apr 09 23:03	26° \mathbb{J} 11'21		min. Earth dist.	5083 Nov 30 14:01	10° \mathbb{H} 05'15	3.93431 AU
opposition	5078 Jun 09 18:19	21° \mathbb{J} 18'33	1°04'56	direct	5084 Jan 28 11:33	5° \mathbb{H} 02'55	
min. Earth dist.	5078 Jun 10 23:41	21° \mathbb{J} 09'09	4.45857 AU	evening set	5084 Jun 02 16:26	24° \mathbb{H} 53'24	
direct	5078 Aug 11 12:38	16° \mathbb{J} 16'59					
	5078 Nov 27 16:42	0° \mathbb{Z}		conjunction	5084 Jun 16 04:52	28° \mathbb{H} 08'21	0°-39'-29
evening set	5078 Dec 15 06:59	3° \mathbb{Z} 45'10		minimum elong	5084 Jun 16 04:54	28° \mathbb{H} 08'22	0°39'31
max. Earth dist.	5078 Dec 26 01:56	6° \mathbb{Z} 06'27	6.42158 AU	max. Earth dist.	5084 Jun 18 04:20	28° \mathbb{H} 36'54	5.95798 AU
					5084 Jun 23 22:41	0° \mathbb{S}	
conjunction	5078 Dec 28 02:18	6° \mathbb{Z} 32'57	0°33'41	morning rise	5084 Jun 29 20:13	1° \mathbb{S} 24'38	
minimum elong	5078 Dec 28 02:19	6° \mathbb{Z} 32'57	0°33'41	retrograde	5084 Nov 08 03:30	21° \mathbb{S} 48'43	
morning rise	5079 Jan 09 19:24	9° \mathbb{Z} 19'52		min. Earth dist.	5085 Jan 05 04:29	16° \mathbb{S} 56'28	4.00520 AU
retrograde	5079 May 11 05:21	26° \mathbb{Z} 25'45		opposition	5085 Jan 06 16:39	16° \mathbb{S} 44'09	0°-36'-43
opposition	5079 Jul 11 03:37	21° \mathbb{Z} 33'39	0°29'43	direct	5085 Mar 05 18:37	11° \mathbb{S} 47'24	
min. Earth dist.	5079 Jul 12 16:48	21° \mathbb{Z} 21'47	4.36887 AU		5085 Jul 05 03:29	0° \mathbb{Q}	
direct	5079 Sep 11 13:14	16° \mathbb{Z} 33'32		evening set	5085 Jul 10 04:45	1° \mathbb{Q} 10'13	
	5079 Dec 25 18:17	0° \mathbb{W}					
evening set	5080 Jan 15 03:46	4° \mathbb{W} 27'33		conjunction	5085 Jul 23 21:45	4° \mathbb{Q} 22'01	0°-7'-53
max. Earth dist.	5080 Jan 25 16:21	6° \mathbb{W} 49'24	6.30238 AU	minimum elong	5085 Jul 23 21:46	4° \mathbb{Q} 22'02	0°07'54
				behind sun begin	5085 Jul 23 14:17	4° \mathbb{Q} 17'41	
conjunction	5080 Jan 27 21:03	7° \mathbb{W} 19'08	0°05'01	behind sun end	5085 Jul 24 05:15	4° \mathbb{Q} 26'23	
minimum elong	5080 Jan 27 21:04	7° \mathbb{W} 19'09	0°05'02	max. Earth dist.	5085 Jul 26 07:35	4° \mathbb{Q} 55'47	6.06911 AU
behind sun begin	5080 Jan 27 13:20	7° \mathbb{W} 14'48		morning rise	5085 Aug 06 16:05	7° \mathbb{Q} 34'14	
behind sun end	5080 Jan 28 04:49	7° \mathbb{W} 23'29			5085 Sep 09 00:39	15° \mathbb{Q}	
morning rise	5080 Feb 09 13:18	10° \mathbb{W} 10'27		asc. node	5085 Oct 22 20:14	22° \mathbb{Q} 57'17	
	5080 Mar 02 12:31	15° \mathbb{W}		retrograde	5085 Dec 13 00:53	26° \mathbb{Q} 55'57	
desc. node	5080 Mar 29 20:30	20° \mathbb{W} 27'24		min. Earth dist.	5086 Feb 09 06:23	22° \mathbb{Q} 03'19	4.14362 AU
retrograde	5080 Jun 12 15:32	28° \mathbb{W} 08'19		opposition	5086 Feb 10 16:18	21° \mathbb{Q} 51'48	0°14'00
opposition	5080 Aug 12 09:48	23° \mathbb{W} 15'21	0°-16'-5	direct	5086 Apr 10 17:43	16° \mathbb{Q} 52'19	
min. Earth dist.	5080 Aug 13 21:58	23° \mathbb{W} 03'45	4.22689 AU		5086 Jul 20 22:33	0° \mathbb{M}	
direct	5080 Oct 12 21:16	18° \mathbb{W} 17'20		evening set	5086 Aug 15 06:06	5° \mathbb{M} 32'30	
	5081 Jan 15 15:00	0° \mathbb{H}					
evening set	5081 Feb 15 09:15	6° \mathbb{H} 51'24		conjunction	5086 Aug 28 22:00	8° \mathbb{M} 36'55	0°25'18
max. Earth dist.	5081 Feb 26 08:44	9° \mathbb{H} 24'39	6.14893 AU	minimum elong	5086 Aug 28 21:59	8° \mathbb{M} 36'54	0°25'17
				max. Earth dist.	5086 Aug 30 19:42	9° \mathbb{M} 02'38	6.22249 AU
conjunction	5081 Feb 28 03:16	9° \mathbb{H} 49'29	0°-26'-30	morning rise	5086 Sep 11 13:38	11° \mathbb{M} 40'52	
minimum elong	5081 Feb 28 03:15	9° \mathbb{H} 49'28	0°26'31	retrograde	5087 Jan 14 09:25	29° \mathbb{M} 51'28	

min. Earth dist.	5087 Mar 14 10:31	24° $\mathring{\text{M}}$ 57'28	4.29752 AU		5092 May 04 23:35	0° $\mathring{\text{H}}$	
opposition	5087 Mar 15 08:52	24° $\mathring{\text{M}}$ 50'00	0°56'39	retrograde	5092 Jun 17 09:49	2° $\mathring{\text{H}}$ 49'09	
direct	5087 May 14 17:09	19° $\mathring{\text{M}}$ 48'32			5092 Jul 31 12:57	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$	
	5087 Aug 11 17:55	0° $\mathring{\text{A}}$		opposition	5092 Aug 17 04:48	27° $\mathring{\text{A}}$ 55'54	0°-22'-41
evening set	5087 Sep 18 06:01	7° $\mathring{\text{A}}$ 48'07		min. Earth dist.	5092 Aug 18 14:45	27° $\mathring{\text{A}}$ 45'00	4.20690 AU
				direct	5092 Oct 17 11:22	22° $\mathring{\text{A}}$ 58'12	
conjunction	5087 Oct 01 16:47	10° $\mathring{\text{A}}$ 44'20	0°48'52		5092 Dec 27 04:08	0° $\mathring{\text{H}}$	
minimum elong	5087 Oct 01 16:46	10° $\mathring{\text{A}}$ 44'19	0°48'52	evening set	5093 Feb 20 00:06	11° $\mathring{\text{H}}$ 37'49	
max. Earth dist.	5087 Oct 02 12:31	10° $\mathring{\text{A}}$ 55'08	6.36488 AU	max. Earth dist.	5093 Mar 03 02:51	14° $\mathring{\text{H}}$ 13'39	6.12911 AU
morning rise	5087 Oct 15 01:46	13° $\mathring{\text{A}}$ 39'29					
	5088 Jan 21 03:28	0° $\mathring{\text{M}}$		conjunction	5093 Mar 04 18:21	14° $\mathring{\text{H}}$ 36'48	0°-30'-32
retrograde	5088 Feb 14 02:23	0° $\mathring{\text{M}}$ 54'03		minimum elong	5093 Mar 04 18:20	14° $\mathring{\text{H}}$ 36'48	0°30'32
	5088 Mar 08 21:24	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$		morning rise	5093 Mar 17 13:09	17° $\mathring{\text{H}}$ 36'22	
opposition	5088 Apr 14 09:18	25° $\mathring{\text{A}}$ 56'12	1°20'05		5093 May 14 20:33	0° $\mathring{\text{Y}}$	
min. Earth dist.	5088 Apr 14 05:43	25° $\mathring{\text{A}}$ 57'23	4.41831 AU	retrograde	5093 Jul 23 15:24	6° $\mathring{\text{Y}}$ 53'55	
direct	5088 Jun 15 00:23	20° $\mathring{\text{A}}$ 53'56		opposition	5093 Sep 22 00:18	1° $\mathring{\text{Y}}$ 58'15	-1°-4'-52
	5088 Sep 07 17:15	0° $\mathring{\text{M}}$		min. Earth dist.	5093 Sep 22 19:36	1° $\mathring{\text{Y}}$ 51'57	4.05520 AU
evening set	5088 Oct 19 07:54	8° $\mathring{\text{M}}$ 25'29			5093 Oct 07 13:23	30° $\mathring{\text{R}}$ $\mathring{\text{H}}$	
				direct	5093 Nov 20 21:37	27° $\mathring{\text{H}}$ 02'53	
conjunction	5088 Nov 01 12:09	11° $\mathring{\text{M}}$ 15'30	0°57'33		5094 Jan 03 05:07	0° $\mathring{\text{Y}}$	
minimum elong	5088 Nov 01 12:08	11° $\mathring{\text{M}}$ 15'30	0°57'34	evening set	5094 Mar 26 13:19	16° $\mathring{\text{Y}}$ 26'07	
max. Earth dist.	5088 Nov 01 02:34	11° $\mathring{\text{M}}$ 10'20	6.45504 AU				
morning rise	5088 Nov 14 14:02	14° $\mathring{\text{M}}$ 04'17		conjunction	5094 Apr 08 11:57	19° $\mathring{\text{Y}}$ 32'53	0°-52'-28
	5088 Nov 18 22:28	15° $\mathring{\text{M}}$		minimum elong	5094 Apr 08 11:56	19° $\mathring{\text{Y}}$ 32'53	0°52'29
	5089 Feb 20 03:47	0° $\mathring{\text{A}}$		max. Earth dist.	5094 Apr 08 00:24	19° $\mathring{\text{Y}}$ 25'56	5.99413 AU
retrograde	5089 Mar 14 23:53	0° $\mathring{\text{A}}$ 48'36		morning rise	5094 Apr 21 12:24	22° $\mathring{\text{Y}}$ 40'54	
	5089 Apr 06 18:26	30° $\mathring{\text{R}}$ $\mathring{\text{M}}$			5094 May 23 02:33	0° $\mathring{\text{B}}$	
opposition	5089 May 14 15:04	25° $\mathring{\text{M}}$ 53'54	1°21'04	retrograde	5094 Aug 30 17:38	13° $\mathring{\text{B}}$ 02'46	
min. Earth dist.	5089 May 15 06:02	25° $\mathring{\text{M}}$ 49'04	4.47348 AU	opposition	5094 Oct 29 16:05	8° $\mathring{\text{B}}$ 03'37	-1°-25'-17
direct	5089 Jul 16 02:18	20° $\mathring{\text{M}}$ 51'41		min. Earth dist.	5094 Oct 29 11:45	8° $\mathring{\text{B}}$ 05'03	3.95121 AU
	5089 Oct 09 13:24	0° $\mathring{\text{A}}$		direct	5094 Dec 27 04:17	3° $\mathring{\text{B}}$ 09'43	
evening set	5089 Nov 19 03:19	8° $\mathring{\text{A}}$ 13'03			5095 Mar 28 18:07	15° $\mathring{\text{B}}$	
max. Earth dist.	5089 Nov 30 16:54	10° $\mathring{\text{A}}$ 42'23	6.47098 AU	evening set	5095 May 02 03:59	23° $\mathring{\text{B}}$ 00'48	
conjunction	5089 Dec 02 02:04	11° $\mathring{\text{A}}$ 00'17	0°50'37	conjunction	5095 May 15 09:44	26° $\mathring{\text{B}}$ 13'52	0°-55'-3
minimum elong	5089 Dec 02 02:05	11° $\mathring{\text{A}}$ 00'18	0°50'37	minimum elong	5095 May 15 09:45	26° $\mathring{\text{B}}$ 13'53	0°55'05
morning rise	5089 Dec 14 22:07	13° $\mathring{\text{A}}$ 46'21		max. Earth dist.	5095 May 16 08:22	26° $\mathring{\text{B}}$ 27'39	5.93093 AU
	5090 Mar 27 10:40	0° $\mathring{\text{B}}$		morning rise	5095 May 28 18:32	29° $\mathring{\text{B}}$ 28'33	
retrograde	5090 Apr 14 04:41	0° $\mathring{\text{B}}$ 29'21			5095 May 30 22:43	0° $\mathring{\text{II}}$	
	5090 May 01 23:04	30° $\mathring{\text{R}}$ $\mathring{\text{A}}$		retrograde	5095 Oct 08 03:59	20° $\mathring{\text{II}}$ 15'44	
opposition	5090 Jun 14 01:35	25° $\mathring{\text{A}}$ 36'41	1°00'53	opposition	5095 Dec 06 19:01	15° $\mathring{\text{II}}$ 13'00	-1°-11'-48
min. Earth dist.	5090 Jun 15 07:36	25° $\mathring{\text{A}}$ 27'06	4.44988 AU	min. Earth dist.	5095 Dec 05 16:49	15° $\mathring{\text{II}}$ 21'52	3.93714 AU
direct	5090 Aug 15 19:23	20° $\mathring{\text{A}}$ 35'18		direct	5096 Feb 02 16:17	10° $\mathring{\text{II}}$ 18'22	
	5090 Nov 10 06:53	0° $\mathring{\text{B}}$		evening set	5096 Jun 07 22:05	0° $\mathring{\text{B}}$ 07'18	
evening set	5090 Dec 19 13:31	8° $\mathring{\text{B}}$ 05'54			5096 Jun 07 09:51	0° $\mathring{\text{B}}$	
max. Earth dist.	5090 Dec 30 06:11	10° $\mathring{\text{B}}$ 26'26	6.40898 AU				
				conjunction	5096 Jun 21 11:36	3° $\mathring{\text{B}}$ 22'18	0°-35'-41
conjunction	5091 Jan 01 08:16	10° $\mathring{\text{B}}$ 53'58	0°30'05	minimum elong	5096 Jun 21 11:38	3° $\mathring{\text{B}}$ 22'19	0°35'42
minimum elong	5091 Jan 01 08:17	10° $\mathring{\text{B}}$ 53'58	0°30'07	max. Earth dist.	5096 Jun 23 14:38	3° $\mathring{\text{B}}$ 52'55	5.96701 AU
morning rise	5091 Jan 14 01:13	13° $\mathring{\text{B}}$ 41'16		morning rise	5096 Jul 05 03:34	6° $\mathring{\text{B}}$ 38'27	
	5091 Apr 21 21:22	0° $\mathring{\text{A}}$		retrograde	5096 Nov 13 04:43	26° $\mathring{\text{B}}$ 56'37	
retrograde	5091 May 15 18:33	0° $\mathring{\text{A}}$ 52'28		min. Earth dist.	5097 Jan 10 04:59	22° $\mathring{\text{B}}$ 04'12	4.01923 AU
	5091 Jun 08 15:08	30° $\mathring{\text{R}}$ $\mathring{\text{B}}$		opposition	5097 Jan 11 16:50	21° $\mathring{\text{B}}$ 51'59	0°-29'-48
opposition	5091 Jul 15 16:06	26° $\mathring{\text{B}}$ 00'17	0°23'40	direct	5097 Mar 10 21:18	16° $\mathring{\text{B}}$ 54'55	
min. Earth dist.	5091 Jul 17 06:21	25° $\mathring{\text{B}}$ 48'04	4.35273 AU		5097 Jun 17 18:07	0° $\mathring{\text{Q}}$	
direct	5091 Sep 16 00:44	21° $\mathring{\text{B}}$ 00'21		evening set	5097 Jul 15 08:05	6° $\mathring{\text{Q}}$ 13'16	
	5091 Dec 07 23:11	0° $\mathring{\text{A}}$					
evening set	5092 Jan 19 12:58	8° $\mathring{\text{A}}$ 58'37		conjunction	5097 Jul 29 01:18	9° $\mathring{\text{Q}}$ 24'22	0°-3'-1
max. Earth dist.	5092 Jan 30 02:06	11° $\mathring{\text{A}}$ 21'22	6.28378 AU	minimum elong	5097 Jul 29 01:17	9° $\mathring{\text{Q}}$ 24'22	0°03'03
				behind sun begin	5097 Jul 28 16:55	9° $\mathring{\text{Q}}$ 19'32	
conjunction	5092 Feb 01 06:18	11° $\mathring{\text{A}}$ 50'55	0°00'32	behind sun end	5097 Jul 29 09:38	9° $\mathring{\text{Q}}$ 29'12	
minimum elong	5092 Feb 01 06:17	11° $\mathring{\text{A}}$ 50'55	0°00'32	max. Earth dist.	5097 Jul 31 10:54	9° $\mathring{\text{Q}}$ 57'50	6.08683 AU
behind sun begin	5092 Jan 31 22:19	11° $\mathring{\text{A}}$ 46'26		morning rise	5097 Aug 11 19:41	12° $\mathring{\text{Q}}$ 35'45	
behind sun end	5092 Feb 01 14:15	11° $\mathring{\text{A}}$ 55'24			5097 Aug 22 08:19	15° $\mathring{\text{Q}}$	
desc. node	5092 Feb 07 15:29	13° $\mathring{\text{A}}$ 17'39		asc. node	5097 Sep 01 13:39	17° $\mathring{\text{Q}}$ 16'52	
morning rise	5092 Feb 13 22:34	14° $\mathring{\text{A}}$ 43'00			5097 Nov 13 23:11	0° $\mathring{\text{M}}$	
	5092 Feb 15 04:47	15° $\mathring{\text{A}}$		retrograde	5097 Dec 17 16:14	1° $\mathring{\text{M}}$ 48'21	

	5098 Jan 20 04:25	30° \mathbb{R} Ω	
min. Earth dist.	5098 Feb 13 23:21	26° Ω 55'59	4.16339 AU
opposition	5098 Feb 15 09:13	26° Ω 44'31	0°20'51
direct	5098 Apr 15 13:26	21° Ω 44'47	
	5098 Jul 01 17:35	0° \mathbb{M}	
evening set	5098 Aug 20 03:41	10° \mathbb{M} 19'38	
conjunction	5098 Sep 02 19:03	13° \mathbb{M} 22'56	0°29'23
minimum elong	5098 Sep 02 19:01	13° \mathbb{M} 22'55	0°29'23
max. Earth dist.	5098 Sep 04 13:30	13° \mathbb{M} 46'45	6.24296 AU
morning rise	5098 Sep 16 09:56	16° \mathbb{M} 25'40	
	5098 Nov 24 21:14	0° Ω	
retrograde	5099 Jan 18 20:27	4° Ω 27'38	
	5099 Mar 15 15:43	30° \mathbb{R} \mathbb{M}	
opposition	5099 Mar 19 19:47	29° \mathbb{M} 26'42	1°01'15
min. Earth dist.	5099 Mar 19 00:09	29° \mathbb{M} 33'15	4.31719 AU
direct	5099 May 19 09:36	24° \mathbb{M} 25'08	
	5099 Jul 21 16:29	0° Ω	
evening set	5099 Sep 22 20:44	12° Ω 19'45	
conjunction	5099 Oct 06 06:38	15° Ω 14'54	0°51'02
minimum elong	5099 Oct 06 06:36	15° Ω 14'53	0°51'02
max. Earth dist.	5099 Oct 06 23:32	15° Ω 24'07	6.38247 AU
morning rise	5099 Oct 19 14:34	18° Ω 08'55	
	5099 Dec 19 12:14	0° \mathbb{M}	
retrograde	5100 Feb 18 06:18	5° \mathbb{M} 17'04	
opposition	5100 Apr 19 15:41	0° \mathbb{M} 19'41	1°21'33
min. Earth dist.	5100 Apr 19 13:36	0° \mathbb{M} 20'22	4.43300 AU
	5100 Apr 22 03:51	30° \mathbb{R} Ω	
direct	5100 Jun 20 09:52	25° Ω 17'24	
	5100 Aug 18 01:50	0° \mathbb{M}	
evening set	5100 Oct 24 16:40	12° \mathbb{M} 45'23	
	5100 Nov 04 03:42	15° \mathbb{M}	
conjunction	5100 Nov 06 20:01	15° \mathbb{M} 34'37	0°57'30
minimum elong	5100 Nov 06 20:01	15° \mathbb{M} 34'37	0°57'31
max. Earth dist.	5100 Nov 06 07:54	15° \mathbb{M} 28'05	6.46591 AU
morning rise	5100 Nov 19 20:49	18° \mathbb{M} 22'35	